The Impact of the ACA on Maine's Health Insurance Markets

Prepared for the Maine Bureau of Insurance

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1. Introduction

With the passing of the Affordable Care Act of 2010 (ACA), states will be assessing the impact of various components of the law on their insured markets. States across the nation will have to make key policy decisions such as how to structure their exchanges and whether to merge markets. The Maine Bureau of Insurance (BOI) has commissioned Gorman Actuarial and Dr. Jonathan Gruber to assess the impact of the ACA on the Maine markets. This report presents the results of this actuarial and economic modeling and the information presented should assist the state of Maine in preparing for the changes that will take place in CY 2014. It should be noted that this study was completed prior to the passing of LD1333 and does not reflect the impact of LD1333. There will be an additional follow up study to analyze the impact of LD1333 which will be completed in the fall of 2011. This report also includes an Appendix summarizing assumptions and approaches on the various modeling and simulation exercises.

2. Key Findings

This section outlines key findings from this study. In general, there will be a significant drop in the uninsured and traditional Individual Market with some reductions in the population of the Small Group Market. In addition, we have modeled premium disruption in the Individual and Small Group Markets. It should be noted, however, that we have not included in these key findings the impact of the federal temporary Transitional Reinsurance Program for the Individual Market which has the potential to alleviate some of the premium disruption in the short-term.

- **By 2019, the number of uninsured is projected to decrease by 69,000, or 60%.**

Due to the individual mandate and the premium tax subsidies, the number of uninsured will drop by 69,000 leaving 46,000 uninsured. 50% of this population will receive premium tax subsidies through the exchange and 22% of this population will receive coverage through public insurance. Another 23% are covered through ESI and the remaining 5% will be unsubsidized through the exchange.

- **Maine household budgets will improve by $540 million or by $1,010 per household in 2019.**

This is due to the net effect of large benefits to households in the form of higher wages, exchange credits, and increased public coverage offset by smaller costs due to the dropping of ESI coverage, a rise in individual market spending, and new net costs due to taxes. Low income households will receive the majority of the benefits of the ACA; benefits to the middle class are modest, and losers outnumber winners among the highest income households.

- **54% of the Individual Market (20,000 members) will be eligible for tax subsidies within the exchange.**

A fifth of this population will still experience premium increases even after the premium tax subsidies.

- **After the application of tax subsidies, 43% of the Individual Market will experience premium decreases as compared to pre reform premiums.**

The average premium decrease will be 66%.

- **After the application of tax subsidies, 57% of the Individual Market will experience premium increases as compared to pre reform premiums.**

The average premium increase will be 37%. This is mostly due to the product limitations that will take place in CY 2014. It should be noted that we did not include in this estimate the impact of the federal reinsurance program in the exchange which may temporarily alleviate the premium increases.

- **The current average deductible in the Individual Market is $6,300.**

The average actuarial value for the Individual Market is 0.45. 15% of the market is enrolled in a $15,000 deductible plan.

- **In CY 2014, the Individual Market's overall benefits will increase by more than 50%.**

The Individual Market will be enrolled in more comprehensive plan designs and the average actuarial value will increase to at least 0.68

- **In CY 2019, the newly reformed Individual Market will grow to 95,000 new enrollees.**

About one-third of the individuals in this market will come from the existing non-group market in Maine, while almost half will come from the formerly uninsured.

- **89% of the Small Employer Groups will experience a premium increase as compared to pre reform premiums.**

The average premium increase will be 12%. The remaining 11% of small groups will receive, on average, a 17% decrease. These premium changes are primarily due to the elimination of a carrier's ability to use group size adjustments and the impact of the introduction of the exchange as there will be some selection as a small number of employers drop coverage.

- **The impact of merging the Individual Market with the Small Group Market will decrease Individual Market premiums by 9% and increase Small Group Market premiums by 12%.**

In CY 2019, there will be an increase in Individual Market enrollment and some decline in the Small Group Market. They will almost be equal in membership. Morbidity of the Individual Market does not change as compared to now and Small Group Morbidity worsens thereby reducing the impact the Small Group Market has on the Individual Market.

3. Analysis of Impacts to Coverage

The Gruber Microsimulation Model (GMSIM) uses a combination of 2010 Current Population Survey (CPS) data and state administrative data to establish a 2010 insurance coverage baseline for the non-elderly (under 65) population. Table 1 presents this baseline.

	2010 Baseline Coverage
Employer Sponsored Insurance (ESI)	**574,000**
Small Firm ESI (1-50 Employees)	**98,000**
Large Group ESI	**476,000**
Individual Market Insurance	**32,000**
Public Insurance	**334,000**
Uninsured	**106,000**
Total	**1,046,000**

Table 1 – 2010 Baseline Insurance Coverage

Status Quo (Without ACA)

By utilizing population growth projections from the U.S Census Bureau, and insurance enrollment projections from the Congressional Budget Office (CBO), we are able to project forward from this 2010 baseline, and establish a 2019 pre-ACA status quo baseline. We focus on 2019 to allow the ACA to fully phase in; this follows CBO assumptions on the amount of time it takes for the mandate to become fully effective and for the new exchanges and Medicaid expansion to take full effect. Employer sponsored insurance (ESI) would expand by 8% growing from 574,000 individuals covered in 2010 to 619,000 individuals in 2019 in the absence of the ACA. Both small firm ESI and large firm ESI would share in this expansion. Small firm ESI would grow by 12%, from 98,000 individuals covered in 2010 to 110,000 individuals in 2019. The Large Group ESI population would grow by 7%, expanding from a base of 476,000 individuals in 2010 to 509,000 individuals by 2019. Non-group, or individual, market insurance enrollment would remain virtually steady during this period reaching 35,000 individuals covered in 2019. The public insurance membership would shrink by 10% from 2010 to

2019, falling from 334,000 individuals covered to 301,000 individuals (as the economy improves). The ranks of the uninsured would grow by 8%, rising from 106,000 individuals lacking coverage to 115,000 individuals.

With ACA
By 2019, the enacting of the ACA will have had a large impact on insurance coverage in Maine. The expansion of Medicaid will add an additional 20,000 individuals to the public program. The creation of the exchanges will provide a large boost to the Individual Market, in addition to siphoning off all of the traditional Individual Market enrollees. At the same time, these provisions will create a modest reduction in ESI. The net of these effects would be a significant decrease in the uninsured population of 69,000 individuals. Table 2 below summarizes the 2019 coverage effects of the ACA.

	Status Quo	With ACA	Impact
Employer Sponsored Insurance (ESI)	**619,000**	**607,000**	**-12,000**
Small Firm ESI (1-50 Employees)	**110,000**	**91,000**	**-19,000**
Large Group ESI	**509,000**	**516,000**	**7,000**
Individual Market Insurance	**35,000**	**0**	**-35,000**
Individual Exchange	**0**	**95,000**	**95,000**
Public Insurance	**301,000**	**321,000**	**20,000**
Uninsured	**115,000**	**46,000**	**-69,000**
Total	**1,070,000**	**1,070,000**	

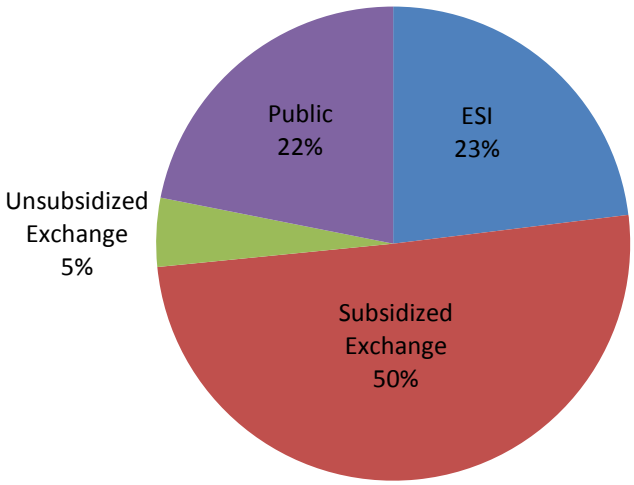
Table 2 – 2019 Coverage Effects of the ACA[1]

3.1. The Uninsured

Table 2 shows that the number of uninsured individuals will fall by 69,000, or 60%. It should be noted that the change in the uninsured has two components: individuals who are uninsured under the status quo and gain coverage under the ACA, and individuals who are insured under the status quo and become uninsured under the ACA. There are about 76,000 individuals in the former category, and about 7,000 individuals in the latter. In the remainder of this report, when we speak of "individuals gaining coverage", we are referring to the 76,000 individuals in the first group. Figure 1 shows how these 76,000 individuals gain coverage.

[1] Note: Columns may not sum due to rounding.

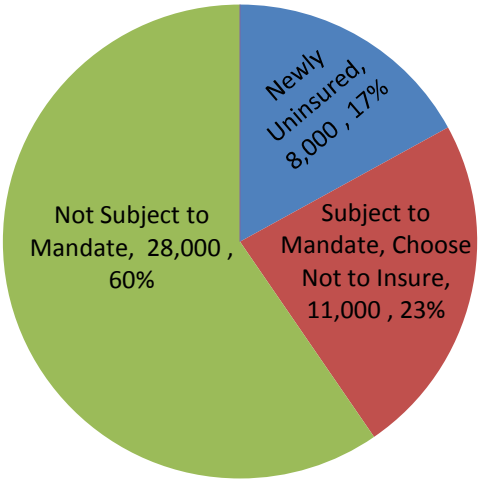
Figure 1: Coverage Sources of the Previously Uninsured: 2019



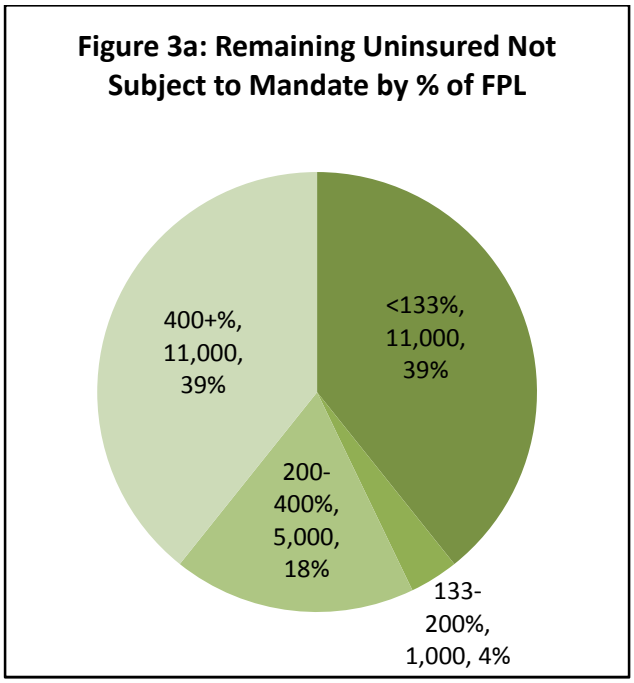
Coverage for the previously uninsured is primarily found in the exchange. More than half of the previously uninsured gain coverage via the individual exchange. 50%, or about 38,000 individuals, receive federal subsidies, and 5%, or 4,000 individuals, pay the full cost of their Individual exchange premium. ESI covers 23%, or about 17,000, of those who are uninsured under the status quo, and then become insured under the ACA. Most of these individuals are obtaining coverage because of the individual mandate. 22%, or about 17,000 individuals who are newly gaining coverage, receive their coverage through public insurance.

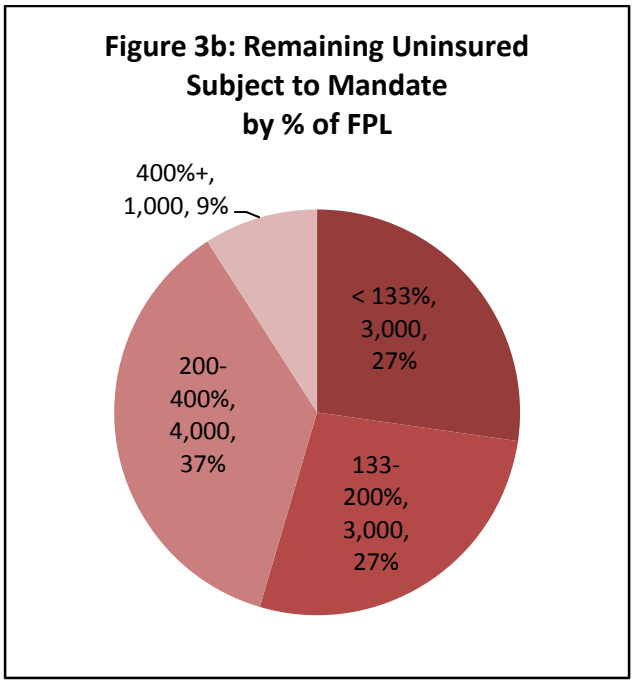
Despite the decrease in the number of uninsured, there will still be around 46,000 uninsured individuals in 2019. Figure 2 shows the breakdown of those remaining uninsured.

Figure 2: Remaining Uninsured: 2019



Of the approximately 46,000 remaining uninsured individuals, 17% are individuals who were insured in the status quo, and after the implementation of the ACA went uninsured. As previously mentioned the provisions of the ACA will result in some individuals losing coverage, largely as the result of firms dropping ESI plans. The remaining 83% of individuals uninsured even after the implementation of the ACA can be split into two categories, those who are exempt from the mandate (because their income is below the individual tax filing threshold or because insurance costs more than 8% of their income) and those that are subject to the mandate and still choose to remain uninsured. There are 28,000 individuals in the exempt group and 11,000 in the group choosing to ignore the mandate. This group of holdouts is quite small with respect to total state population. The entire group of 39,000 only represents 4% of the non-elderly population in 2019. In Figures 3a and 3b, we examine the income distribution of the two groups in order to better understand them.





Looking first at Figure 3a, those not subject to the individual mandate, we see that 39% of the individuals in this category make less than 133% of FPL. This is to be expected as there are no financial penalties for breaking the mandate if household income is less than the tax filing threshold. These individuals are all eligible for Medicaid, but many of them decline it (as they do today) without a requirement for enrollment. More interesting are the groups above 133% of FPL, as we can learn a bit about the affordability of the exchange and ESI from these groups. If household income is greater than the tax filing threshold, the only way an individual can be exempted from the mandate is if insurance is

"unaffordable", which is defined as costing more than 8% of income. We see very few individuals exempt from the mandate between 133-200% of FPL, which correspond to the highest levels of exchange subsidies. As income rises and subsidies decrease, more individuals become mandate exempt, and remain uninsured. There are 5,000 exempt remaining uninsured between 200-400% of FPL. Once we get to 400% of poverty and the full phase-out of exchange subsidies, we see another bump in exempt uninsured individuals (those for whom insurance costs more than 8% of their income), with 11,000 individuals in this category. In fact there are just as many exempt individuals above 400% of FPL as there are underneath 133% of FPL.

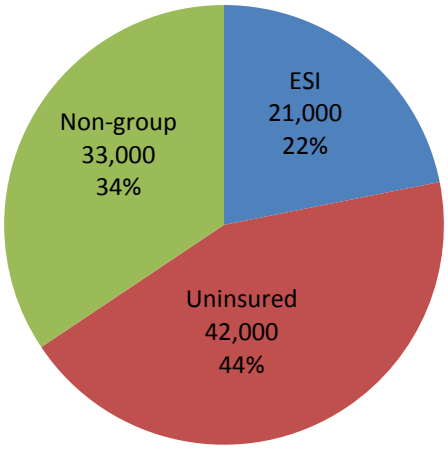
The group that is subject to the mandate includes people that by definition have an affordable insurance option, and an income that is at least larger than the tax filing threshold. This group also does not have a particularly strong trend with regard to income. Perhaps the only lesson to be learned is that as income rises so does the probability of being insured. The over 400% of FPL population, despite comprising about 40% of the total state population, represents only 9% of the remaining uninsured which ignore the mandate. It is still important to remember that even though there are some who refuse to insure regardless of the incentives, they are a tiny fraction of the state population. The entire group of 11,000 individuals that are ignoring the mandate only make up 1% of the 2019 Maine non-elderly population.

3.2. Individual Insurance Market and the Exchange

By 2019, individuals desiring non-group insurance can participate in one of two different markets. The first is to move to the new insurance exchanges, which are community rated and provide federal subsidies for those who are eligible. The second is to move to the newly reformed market, but to purchase a policy outside of the exchange. This may be attractive for non-subsidized individuals if there are a wider variety of health plan choices available outside the exchange.

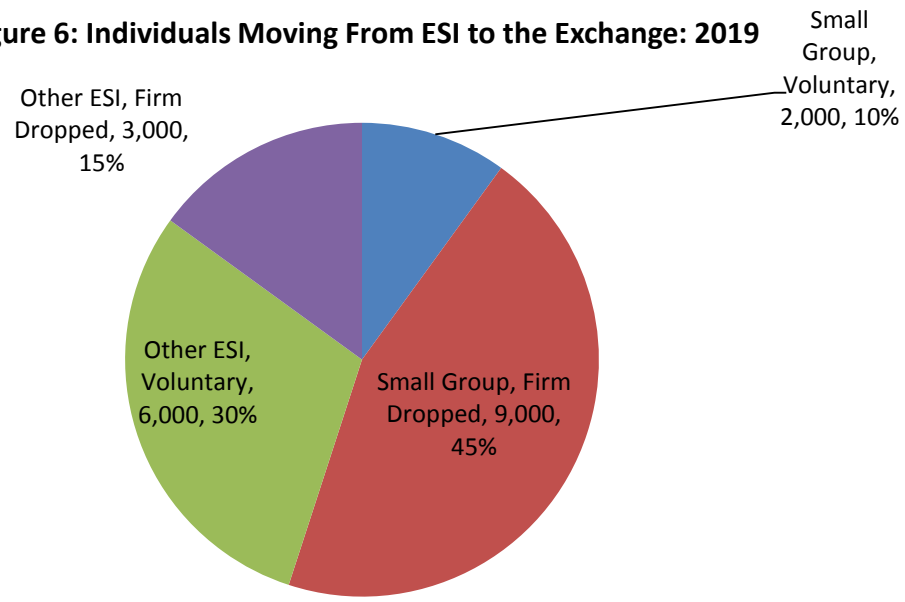
By 2019, the traditional Individual Market will have completely phased out, losing all 35,000 members, while the newly reformed market will grow to 95,000 new enrollees. Figure 5 below presents the status quo coverage sources of the exchange population.

Figure 5: Status Quo Coverage Sources of the Exchange Population: 2019



The largest group moving to the exchange is those who would be uninsured absent the ACA. They make up 44% of the exchange representing 42,000 individuals. Next, is the existing non-group population which makes up 34% of the exchange, representing 33,000 individuals. The status quo ESI population makes up the remaining 22% of the exchange, representing 21,000 individuals. Figure 6 breaks down the origins of those 21,000 individuals switching from ESI to the exchange.

Figure 6: Individuals Moving From ESI to the Exchange: 2019



3.3. Employer Sponsored Insurance

As previously mentioned, ESI will experience a small net decline in enrollment, although there will be larger gross flows within the employer-sponsored insurance population. There will be 12,000 fewer Maine residents covered via ESI due to the effects of the ACA. This represents only a 2% decline in ESI enrollment. There are a few reasons for the small magnitude of this effect. The first major reason is that firms will not fully take up the incentives provided by the ACA to drop coverage. This is due to the employer mandate codified in the ACA. Firms with 50 or more employees will face fines if they do not offer adequate, affordable policies to their employees. These fines partially offset the financial incentives to drop coverage and shift employees to the nascent exchange. In addition, the presence of the individual mandate provides an incentive for individuals to pressure employers to maintain ESI coverage. Since insurance coverage is mandatory at the individual level as well, employees will desire the security provided by the ESI plans they are already enrolled in. Furthermore, evidence from the recent health insurance reform in Massachusetts suggests that most firms will not drop coverage, even with the presence of a viable alternative like the exchange. It is not clear how relevant this experience is for Maine given the differences in the two states, but it further confirms the conclusions from our analysis (and CBO's) that show small effects on employers.

Figure 4: Number of Individuals Experiencing Change in ESI: 2019

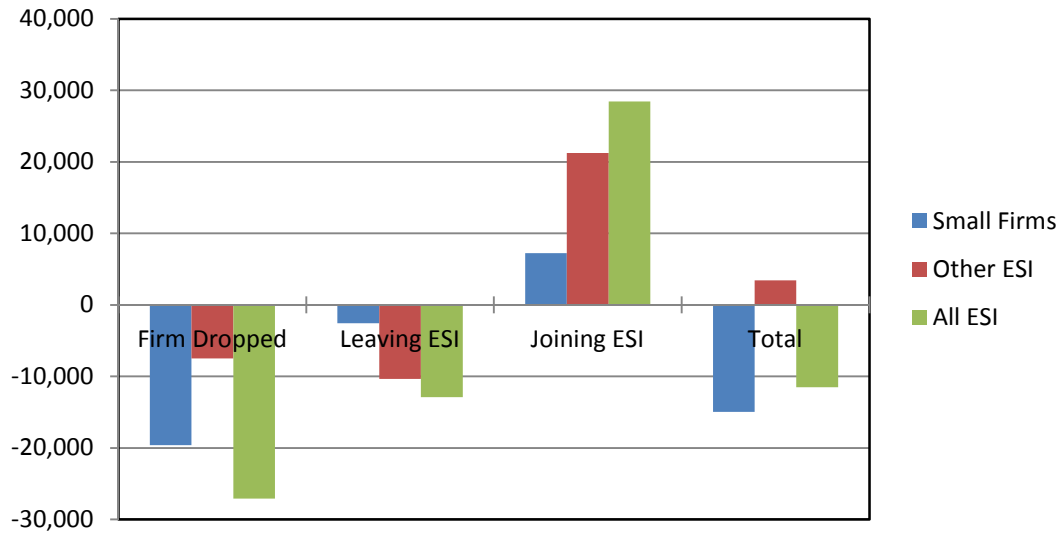


Figure 4 summarizes the flow in and out of ESI in 2019. In this figure we divide the ESI movements into three categories: those dropped by their firm; those who voluntarily leave employer-sponsored insurance to move to the exchange, Medicaid, or even to become uninsured; and those who join employer-sponsored insurance either due to changing prices, the individual mandate, or the expansion of dependent coverage to young adults. The last set of bars shows the very small overall net effects.

As with those in the non-group market, those in the Small Group Market may end up in one of two places. The first is to purchase through the new SHOP exchange, which is the only channel through which they can avail themselves of small group tax credits. The second is to purchase in the new community rated market, but outside the SHOP exchange. We do not explicitly model how many are in or out of the SHOP exchange. We assume that by 2019 the entire small group market will have phased out of grandfathered plans from the existing (non-community) rating environment, and will now purchase coverage through the newly reformed market (inside and outside of the exchange.

4. Maine Individual Market

We define Maine's current Individual Market as individuals (this includes single policyholders and family households) that purchase insurance on their own in the private insured market. The Individual Market will also include sole proprietors. In the Maine market, carriers are allowed to include sole proprietors in their Individual Market. However, if a carrier does not participate in the Individual Market, carriers must include sole proprietors in their small group rating pool[2]. In addition, we have also included the DirigoChoice Individual and Sole Proprietor population. The DirigoChoice population is generally lower income individuals eligible for state subsidies. We have estimated that as of June 2010, there were approximately 36,359 individuals enrolled within Maine's Individual Market, of which 4,909 individuals were enrolled within Maine's DirigoChoice program. These estimates are based on results from a survey conducted by Gorman Actuarial on behalf of the Maine Bureau of Insurance. Currently, there are only three carriers that actively participate in the market: Anthem Blue Cross and Blue Shield (BCBS), MEGA, and Harvard Pilgrim Health Care (HPHC). Each insurance carrier offers vastly different products and correspondingly serves vastly different populations. Anthem BCBS has the majority of the market with 50% of the market share. MEGA has 36% and HPHC has 14%. Note that the vast majority of HPHC's market share is in the Dirigo population.

[2] http://www.maine.gov/pfr/insurance/reports/BOIHealth_Insurance_report2-12-2010finalFSl.htm

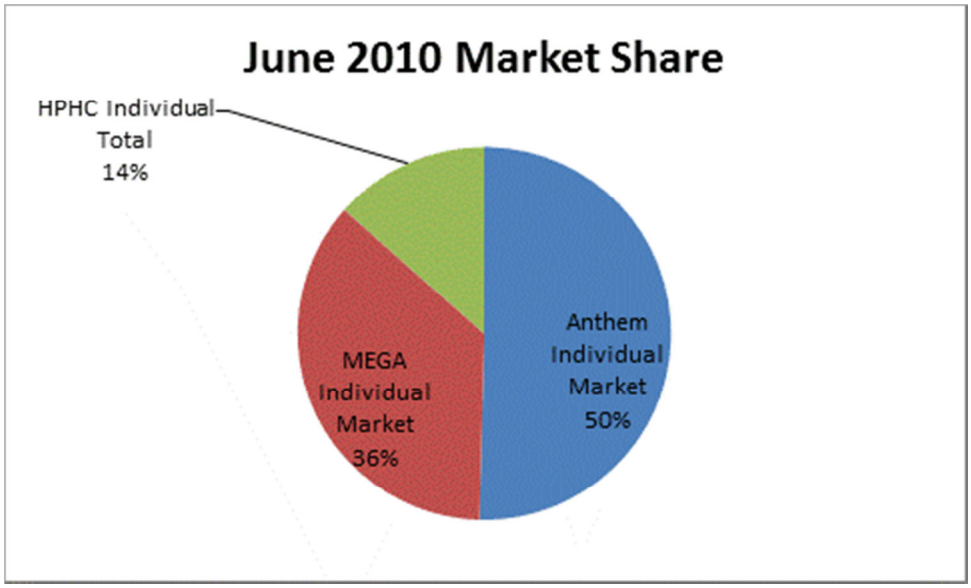


Table 3 – June 2010 Maine Individual Market Share

As of June 2010, there were approximately 29,000 policyholders of which approximately 63% are single policies and 37% are family policies. The average contract size in the Individual Market is 1.7.

4.1. Current Individual Market Premiums

For the Maine Individual Market Study, GA collected CY 2009 premium data for single policies and family policies. A detailed description of GA's data collection and aggregation methods can be found in the Appendix. Table 4 below shows estimated monthly 2009 premiums for single policies within the Maine Individual Market. Note that these premiums reflect the various discounts and surcharges that carriers use to set premiums as well as varying benefit levels. We have shown premiums by age cohort.

Single Policies	Percent Distribution	Premium PSPM
0-17	0.7%	$ 227.06
18-24	4.5%	$ 259.29
25-29	6.5%	$ 297.05
30-34	4.2%	$ 289.06
35-39	4.1%	$ 288.60
40-44	5.9%	$ 302.76
45-49	9.4%	$ 346.22
50-54	13.2%	$ 366.76
55-59	18.8%	$ 418.34
60-64	28.4%	$ 447.61
65+	4.5%	$ 685.82
All	100.0%	$ 391.29

Table 4 – Estimated 2009 Monthly Premiums Per Single Policy

On average, single policy holder premiums charged were approximately $391 per month in 2009 or $4,695 annually. Approximately 1% of the single policies are in "child-only" policies. As expected, premiums increase with age.

Table 5 shows 2009 monthly premiums for family policies. We have summarized the data by family size. Some carriers charge family premiums by aggregating premiums for each member within the family. Other carriers charge a family premium that is based on a fixed ratio to single policy premium regardless of average family size. Note that the premiums shown reflect the various discounts and surcharges that carriers use to set premiums.

Family Size	Percent Distribution	Premium PSPM
2	55.6%	$ 708.82
3	17.7%	$ 662.78
4+	26.8%	$ 713.25
All	100.0%	$ 701.87

Table 5 – Estimated 2009 Monthly Premiums Per Family Policy

On average, family policy holder premiums charged approximately $702 per month in 2009 or $8,422 annually.

4.2. Individual Market Rating Practices

Prior to July 2012, Maine's rating limitations were much more restrictive as compared to what will be allowed within the ACA. Table 6 summarizes the rating practices that occur currently in the Individual Market and also outlines which practices may be allowed in CY 2014 under the ACA. As shown, Maine allows rates to vary by +/-20% (1.5 to 1 rating band) for age and geography, combined.

Rating Practices Before and After ACA		
Rating Factor	**Prior to July 2012**	**ACA CY2014**
Age	1.5 to 1 Band	3 to 1 Band for Adults
Geography	1.5 to 1 band	No Band
Smoking Surcharge	Yes, no limit	up to 50%
Age and Geography in one band	Yes	No

Table 6 – Maine Individual Market Rating Practices Before and After ACA

Carrier rating practices vary in the Maine Individual Market. Some carriers use age, geography, and smoking adjustments, while others just use age and area and some just use age.

Age - All carriers surveyed currently use some form of age rating when setting policy premiums. This means that carriers will surcharge premiums for older individuals and discount premiums for younger individuals. Some carriers use the policyholder's age when calculating an adjustment and others use the ages of the policyholder and its dependents to determine the age adjustment. If Maine moves toward the rating limitations allowed in CY 2014 under the ACA, age adjustments will need to be within a 3 to 1 band for adults, meaning that a premium rate cannot be greater than 3 times the lowest rate due to age. This results in the younger demographics subsidizing a ***smaller*** portion of the older demographics' premium.

Tobacco – Only one carrier surveyed collects information on tobacco use. For the carrier that collects tobacco information, 8% of the market reports using tobacco with an average surcharge of 17%. According to the ACA, in CY 2014, health plans will be able to charge up to a 50% surcharge for tobacco use. This may result in an increase in premiums for individuals who use tobacco.

Geography - Some carriers apply a geography adjustment when setting premiums for the Individual Market. However, since the geography adjustment is required to be within the 1.5 to 1 band, the variation in geography adjustments is small. Generally, the regions in the North are surcharged and the regions in the South are discounted. If geography is taken out of the rating band, the variation in geography rating adjustments will increase and carriers will surcharge their more costly areas greater and give further discounts to

their lower costing areas. Further analysis on the impact of geography is shown later in this report. In CY 2014, per the ACA, the state will be required to define rating regions[3].

4.3. Individual Market Premium Discounts/Surcharges

Every premium charged in the Individual Market is comprised of various components due to the rating discounts and surcharges used by insurance carriers as indicated in Section 4.2.

Table 7 shows the distribution of surcharges and discounts pre-ACA due to age, geography, and smoking status. This table represents everyone in the Individual Market including children. For example, 17.7% of the Individual Market received an average 43% premium discount. Many of these individuals were children. In addition, 13.3% of the population received a premium surcharge and many of these individuals are older and are smokers.

Surcharges/Discounts	Distribution	Average of Surcharge/Discount
<-20%	17.7%	-43%
-20% to -10%	6.0%	-20%
-10% to 0%	15.2%	-4%
0% to 10%	20.0%	2%
10% to 20%	27.7%	15%
>20%	13.3%	34%

Table 7 – Maine Individual Market 2009 Premium Discounts & Surcharges

4.4. Individual Market Product Offerings

In addition to the rating factors described in Section 4.2, premiums also reflect the benefits and cost sharing of the plan purchased by the policyholder. Policyholders purchasing more comprehensive benefits will be charged higher premiums. In order to understand the value of the benefits purchased, we have calculated an actuarial value for every member within the Individual Market. At a high level, the actuarial value represents the average percent of medical expenses that would be paid by an insurance carrier. The higher the actuarial value, the more comprehensive, or the richer, the plan design. The lower the actuarial value, the more the member pays in member cost sharing. We have estimated the average actuarial value for the Maine Individual Market to be approximately 0.45. That is, approximately 45% of medical expenses will be paid for by the insurance carrier and 65% of medical expenses will be paid for by the member, on average.

[3] Section 2701(a)(2)(A) of the ACA

Table 8 shows the distribution of deductible levels in the Individual Market. Note that this distribution is based on reviewing the single policy deductible levels and does not reflect the true deductible levels for family policies. As shown, approximately 69% of the market are enrolled in deductible levels that are $5,000 or greater. We estimate that 15% of the market is enrolled in a $15,000 deductible plan. In the truest form, this means that insurance coverage does not begin until an individual has spent $15,000 out of pocket on medical expenses. However, there are exceptions as some products exclude certain benefits, such as preventive services, from the deductible.

Single Policy Deductible Range	Member Distribution
< $500	2.1%
$500 - $1,000	12.0%
$1,125 - $2,500	8.2%
$2,600 - $4,000	8.6%
$5,000	34.4%
$7,500	6.8%
$10,000	12.9%
$15,000	15.1%
Total	100%

Table 8 – Maine Individual Market 2009 Single Policy Deductible Ranges

In CY 2014, we have assumed that the minimum actuarial value allowed in the market will be 0.60[4]. We have calculated that approximately 79% of the market is currently enrolled in products that have an actuarial value of less than 0.55. Table 9 shows average deductibles by ranges of actuarial values. Note that the actuarial value reflects other cost sharing attributes besides deductibles such as coinsurance charges and copays. In CY 2014, products offered in the exchange will be classified into four product categories, Platinum, Gold, Silver, and Bronze with corresponding actuarial values of 0.90, 0.80, 0.70, and 0.60. For illustrative purposes, we have grouped the Individual Market members into the four product categories assuming existing products with an actuarial value of 0.55 to 0.65 would be considered Bronze, 0.66 to 0.75 would be Silver, 0.76 to 0.85 would be Gold, and above 0.85 would be Platinum. The average deductible decreases significantly as the actuarial value increases, with an overall average of $6,326.

[4] As stated within the ACA, Bronze level benefits are at 0.60 Actuarial Value. In addition, this requirement may be lower for the Catastrophic Plan.

Actuarial Value Range (Prior to HCR)	Member Distribution	Average AV	Average In-Network Single Deductible
Less than 0.55	79%	0.37	$7,719
BRONZE (0.55 TO 0.65)	4%	0.63	$2,346
SILVER (0.66 TO 0.75)	6%	0.69	$1,685
GOLD (0.76 TO 0.85)	11%	0.80	$556
PLATINUM (greater than 0.85)	1%	0.93	$215
Total	**100%**	**0.45**	**$6,326**

Table 9 – Maine Individual Market Actuarial Value Range

In addition to varying cost sharing elements, members' benefits also vary. We have highlighted two which we believe will be a part of the essential benefit definition in CY 2014: pharmacy benefit and physician visits. From the market survey, we have estimated that approximately 36% of the market does not have a pharmacy benefit and 15% does not have a physician visit benefit.

4.5. Individual Market Financials

In CY 2009, the overall premium per member per month (PMPM) was $299 and the incurred claims PMPM was $243. The ratio of claims to premium (loss ratio) for the Individual Market was 0.81. It should be noted however, that there is significant loss ratio variation among the insurance carriers. Loss ratios by insurance carrier ranged from 0.67 to 0.90. This validates the population differences and pricing difference among the carriers.

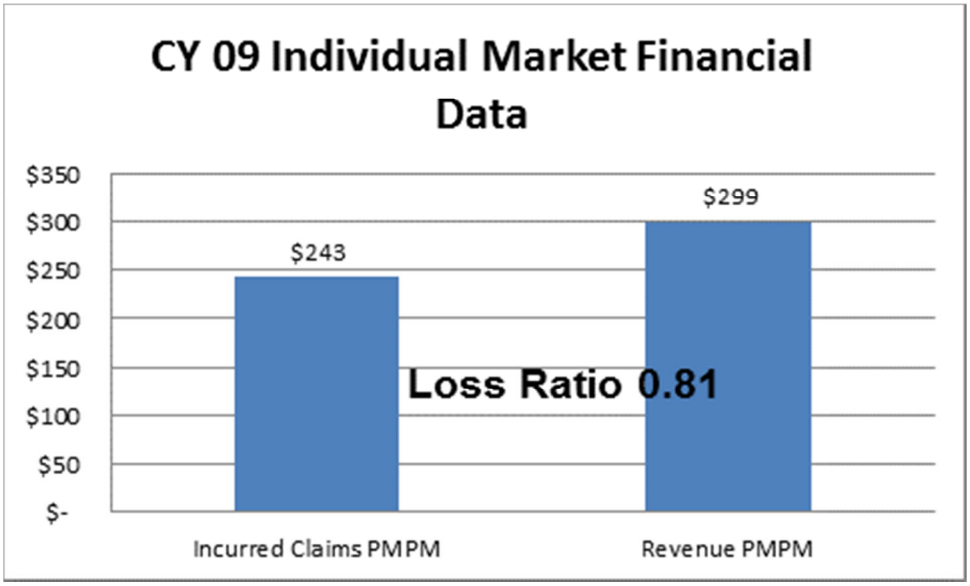


Table 10 – Maine Individual Market Actuarial Value Range

5. Individual Market Premium Impacts due to ACA Reforms – Before Implementation of Tax Subsidy

There are many changes that will take place in CY 2014 that will affect premiums within the Individual Market. Some changes will affect just portions of the Individual Market and others will affect the market as a whole. We have focused our modeling and assumptions on the four categories of change listed below. Note that these estimates do not reflect the impact of the risk adjustment, reinsurance, and risk corridor programs that are mandated by the ACA, which may mitigate premium changes due to the law. Since it is still unknown as to how these programs will be designed, we have not shown their potential impact in the numbers below. However, we do provide some sensitivity analysis around the federal Individual Market Reinsurance Program further in the report. In addition, these premium impacts do not reflect the impact of annual medical trends. These premium impacts are shown prior to the implementation of the federal tax subsidy. There will be a portion of the Individual Market that will be eligible for these subsidies. We have shown the results including the resulting premiums in Section 6. Additional information on methodology can be found in the Appendix.

(1) **The impact of rating limitations:** Since Maine's Individual Market is already highly regulated, there will be little premium disruptions due to rating limitations. Maine's rating regulations are already more limiting than what will be required through the ACA. The Maine BOI requested that we model the premium impacts to the Individual Market under two scenarios: (1) No changes to Maine's current rating regulations. (2) Changing Maine's current rating regulations to what will be allowed within the ACA. Table 11 illustrates the differences under each scenario.

Rating Factor	Scenario 1	Scenario 2
Age	1.5 to 1 Band	3 to 1 Band for Adults
Geography	1.5 to 1 band	No Band
Smoking Surcharge	Yes, no limit	up to 50%
Age and Geography in one band	Yes	No

Table 11 – Maine Individual Market Scenarios

Under scenario 1, there will be no change to premiums since this is the practice today. However, under Scenario 2, the cross subsidizations across ages and geographies will lessen thus creating "winners & losers". That is, some members will receive rate increases and some will receive rate decreases. Relaxing the age

band will increase premiums for the older demographic and decrease premiums for the younger demographic. In addition, taking the geography adjustment out of the rating band will increase premiums for more costly regions and decrease premiums for less costly regions. However, we believe the rating limitation changes alone will not affect overall average premiums.

(2) **The impact of product limitations:** While the essential benefits coverage has yet to be defined, we believe benefits such as pharmacy and physician visits will be included. In addition, we believe that the minimum actuarial value allowed in 2014 will be 0.60. The exception to this is the catastrophic plan for the 18 to 30 year olds. We have assumed a minimum actuarial value of 0.45 for this plan.[5] This will require the majority of the market to "buy up" and will therefore result in premium increases. However, along with premium increases will be more comprehensive health insurance coverage. We have estimated the premium impact due to product limitations to the entire Individual Market to be **33%.**

(3) **The impact of Sole Proprietors Exiting the Individual Market:** It is unclear whether the ACA defines the Small Group Market as 1 to 50 employees or 2 to 50 employees. If the former is true, there may be some market disruption as sole proprietors exit the Individual Market and enter the Small Group Market. The Maine BOI has asked GA to model the impact of sole proprietors exiting the Individual Market. Since sole proprietors generally have a healthier risk profile than the non-sole proprietors, we have assumed overall premiums would increase **5%.**

(4) **The impact of the new exchange market:** In CY 2014, with the introduction of the individual mandate and the tax subsidies provided within the exchange, there will also be new Individual Market entrants. These new Individual Market members will come primarily from the uninsured and to a lesser extent from employer sponsored insurance. These new members will have an impact on the existing Individual Market premiums and the magnitude of the impact will depend on how their risk profile compares to the risk profile of the Individual Market. This last modeling exercise was performed by Dr. Gruber using his microsimulation model (GMSIM). Results show very little differences in morbidity between the new exchange population and the existing Maine Individual Market. We find that premiums for the entire Individual Market may increase an additional **0.4%**.

Table 12 shows the distribution of premium changes under Scenario 1 from the combined effects discussed above. For example, prior to tax subsidies, 52% of the market will receive a premium increase that is higher than 40%. No one receives premium decreases. Overall premiums will increase 40% on average prior to tax subsidies. Individuals that

[5] Gorman Actuarial is unaware of any regulation or guidance pertaining to the Catastrophic Plan as allowed within the ACA. The 0.45 Actuarial value limit is an assumption.

will experience rate increases greater than 100% are enrolled in products that have an average actuarial value of 0.26. Also, generally, there is no significant bias with respect to age. The young and old cohorts have similar actuarial values and therefore will experience premium increases and decreases equally. Once again, these estimates do not include any offsetting impact from risk adjustment, risk corridors, and reinsurance that are mandated by the ACA.

	Scenario 1			
Premium Change Catogory	Distribution	Avg Premium Change	Average Age	Average AV
Less Than -20%	0%	0%		
-20% to -0%	0%	0%		
0% to 20%	24%	5%	43	0.71
20% to 40%	23%	26%	45	0.49
40% to 60%	4%	51%	28	0.35
60% to 80%	13%	76%	40	0.35
80% to 100%	15%	91%	42	0.33
100%+	20%	140%	40	0.26
Total	100%	40%	42	0.45

Table 12 – Resulting Premium Changes Due to Categories (1) through (4) Before Tax Subsidies – Scenario 1[6]

Table 13 shows the distribution of premium changes under Scenario 2 from the combined effects discussed above. For example, prior to tax subsidies, 15% of the market will receive a premium decrease and their average age is 25. Those who receive premium increases are much older. Individuals that will experience rate increases greater than 100% are enrolled in products that have an average actuarial value of 0.28. Overall premiums will increase 40% on average prior to tax subsidies. Once again, these estimates do not include any offsetting impact from risk adjustment, risk corridors, and reinsurance that are mandated by the ACA.

[6] Premium changes do not include the impact of medical trend.

Premium Change Category	Scenario 2			
	Distribution	Avg Premium Change	Average Age	Average AV
Less Than -20%	7%	-32%	24	0.57
-20% to 0%	8%	-8%	28	0.56
0% to 20%	20%	9%	46	0.64
20% to 40%	12%	29%	47	0.51
40% to 60%	9%	47%	43	0.44
60% to 80%	10%	69%	44	0.38
80% to 100%	8%	86%	43	0.33
100%+	26%	145%	43	0.28
Total	100%	40%	42	0.45

Table 13 – Resulting Premium Changes Due to Categories (1) to (4) Before Tax Subsidies – Scenario 2[7]

Table 14 shows the average premium change by region under Scenario 2. Region definitions are found in the Appendix. Since Scenario 2 allows carriers to bring geography outside of the rating band, there will be variation in premium change by region. As expected, the highest increases are in Down East, North, and North Central. By taking out the geography adjustment from the rating band, we eliminate any cross subsidies across regions.

Scenario 2		
Region	Distribution	Premium Change
Down East	10.4%	71%
Lakes & Mountains	16.3%	40%
Mid Coast	16.9%	37%
North	4.4%	59%
North Central	11.7%	52%
South	38.5%	25%
Other and Unknown	1.7%	29%
Grand Total	100.0%	40%

Table 14 – Average Premium Impacts by Region[8]

These estimates do not reflect the impact of the risk adjustment, reinsurance, and risk corridor programs that are mandated by the ACA, which may mitigate premium changes due to the law.

[7] Ibid.
[8] Ibid.

5.1. Federal Individual Market Temporary Reinsurance Program

In CY 2014, the Individual Market will be eligible for a reinsurance program which will be funded through assessments on insurers and third party administrators on behalf of group health plans. The reinsurance will be for high risk individuals in the Individual Market. At this time, it is unclear as to how the assessments will be calculated, however the maximum contribution will be $10 Billion in CY 2014, $6 Billion in CY 2015, and $4 Billion in CY 2016. It is also unknown how the reinsurance program will be structured. We have made several assumptions to estimate the amount of funding that would be available to the Maine Individual Market. Using some high level assumptions, we have estimated that premiums could be reduced an additional 7% to 15% in CY 2014. These premium reductions will get smaller each year as the funding decreases and the membership within the Individual Market increases. We have estimated a 3% to 5% reduction in CY 2016. By CY 2017, there will be additional premium increases since the reinsurance program will be phased out. We have also estimated that the premium assessments on the group market could be 0.5% to 1%.

6. Individual Market Premium Impacts due to ACA Reforms – After Implementation of Tax Subsidy

As described in Section 5, many changes will take place in CY 2014 that will impact what a consumer will pay in the Individual Market. Approximately 54% of the Individual Market will be eligible for federal premium tax subsidies that will be offered through the exchange. This subsidy will be based on one's income and increases as income decreases. We modeled the effect of the tax subsidy on the Individual Market. Most of our modeling was performed using actual data on the Individual Market received from the insurance carriers; however, insurance carriers do not capture income information. With assistance from Dr. Gruber, we have assigned income categories to our existing Individual Market data. In addition, we assigned exchange premiums to each of our Individual Market records. These exchange premiums were provided by Dr. Gruber and are adjusted for the federal subsidies. Note that, once again, our results do not account for any further reduction in premiums from state risk adjustment, reinsurance or from redirecting the high risk pool assessment.

Table 15 summarizes our results under Scenario 1. We first divide the Individual Market into those who see post-subsidy premium reductions ("winners") and those who see post-subsidy premium increases ("losers"). Within each of these groups, we then further divide the winners and losers into those who are and those who are not eligible for subsidies in the exchange. Overall, we find that 43% of the market will pay less as compared to pre-reform premiums. Their average premium reduction is 66%. The 57% that pay more will experience an average increase of 37%. Note that the premium estimates shown are in 2009 dollars. The results show that there is a wide variation in premium impacts depending on an individual's income status and plan design. We have also shown the impact to premiums by single policyholders and family policyholders.

	"Winners"				"Losers"			
Single and Family Policies	% Dist.	Average Annual Premium Before 2014 Impacts	Average Annual Premium After Exchange	Premium Change	% Dist.	Average Annual Premium Before 2014 Impacts	Average Annual Premium After Exchange	Premium Change
Eligible for Subsidy (<400% FPL)	**43.1%**	**$ 6,104**	**$ 2,066**	**-66.2%**	**10.9%**	**$ 3,118**	**$ 4,020**	**28.9%**
Not Eligible for Subsidy (>400% FPL)					**46.0%**	**$ 6,525**	**$ 9,057**	**38.8%**
Total	**43.1%**	**$ 6,104**	**$ 2,066**	**-66.2%**	**56.9%**	**$ 5,888**	**$ 8,040**	**36.6%**
Single Policies	**20.1%**	**$ 4,914**	**$ 1,615**	**-67.1%**	**17.1%**	**$ 4,055**	**$ 5,233**	**29.1%**
Family Policies	**23.0%**	**$ 9,005**	**$ 3,186**	**-64.6%**	**39.8%**	**$ 7,933**	**$ 11,375**	**43.4%**

Table 15 – Summary of "Winners" and "Losers" by Subsidy Category[9]

While 57% of the existing Individual Market will experience significant premium increases, the entire market will also experience a significant increase in benefits and a reduction in out of pocket spending. As noted earlier in the report, the current average actuarial value for this market is 0.45, well below the minimum requirement of 0.60 in CY 2014, and more than half the market is enrolled in plans with a $5,000 deductible, or higher. Another benefit of the ACA is an additional cost sharing subsidy for those earning less than 400% FPL. Table 16 shows the cost sharing subsidies for different income levels per the ACA. For example, those earning between 150 and 200% FPL will in effect be enrolled in a plan that has an actuarial value of 0.87. We have estimated that 54% of the Individual Market will be eligible for cost sharing subsidies, and on average their average actuarial value will be 0.74 in CY 2014.

Percentage of Federal Poverty level	Actuarial Value of Coverage
133-150%	0.94
150-200%	0.87
200-250%	0.73
250-300%	0.70
300-350%	0.70
350-400%	0.70

Table 16 – Cost Sharing Subsidies Per ACA

For the other 46% of the population that are not eligible for subsidies, most will be required to purchase a product that has a minimum actuarial value of 0.60[10]. The combination of the cost sharing subsidies and the essential benefit coverage requirement will move the average actuarial value from 0.45 to a minimum of 0.68 in CY 2014. This is an increase in benefits of at least 51%.

[9] Ibid.
[10] Gorman Actuarial has estimated that 2% of the market will be eligible for catastrophic plans which we have estimated to have an actuarial value of 0.45.

7. Maine Small Group Market

We have estimated that as of year-end 2009, there were approximately 112,000 members, 66,000 subscribers and 12,000 employer groups in the Maine Small Group Market. Below, we provide a brief overview of the Small Group Market and also the premium change implications due to the ACA.

7.1. Current Small Group Market Premiums

Data collected from the insurers included premiums paid by the employer group to the insurance carrier. This premium will include premiums paid by the employer group and employee contributions (i.e. the portion of the premium paid by the employee.) Insurance companies generally do not collect contribution information and therefore have no information regarding what portion of the premium is paid by the employer versus the employee. Thus the information presented in this report represents total premiums that are charged by the insurance carrier. The Kaiser Family Foundations' HRET Survey of Employer-Sponsored Health Benefits indicates that nationally in 2010 covered workers on average contribute 19% of the premium for single coverage and 30% of the premium for family coverage.[11] This contribution will vary by state and employer group size, among other variables.

Table 17 shows estimated CY 2009 premiums for Maine small employer groups. The table summarizes information by group size, which is defined by the number of employees or subscribers enrolled. For example, groups with less than 5 employees have an estimated average monthly premium of $1,219 or an annual premium of $14,628. Note again that this premium includes the employer group contribution as well as the employee contribution. Groups with less than 5 employees represent 72% of groups and 31% of group members in the Small Group Market. In addition, we show a premium per member per month (PMPM) so that one can compare premiums by group size. This shows that premium PMPMs decrease as group size increases. Premiums are about 16% higher for smaller groups as compared to the largest groups. This is to be expected since there are group size surcharges in the market today and generally smaller groups have higher age factors as compared to larger groups. We also show actuarial value by group size which shows that plan designs do not vary significantly by group size.

Group Size	% Distribution of Groups	Average Group Size (Employees)	Average Premium per Employer Group per Month	Average Annual Premium per Employer Group	Premium PMPM	Actuarial Value
1 to 5	72.2%	2.4	$1,219	$14,628	$355	0.68
6 to 9	12.4%	7.2	$3,323	$39,880	$320	0.70
10 to 25	11.9%	15.0	$6,841	$82,097	$312	0.70
25 to 50	3.5%	34.2	$15,298	$183,580	$305	0.70
Total	100.0%	5.6	$2,640	$31,674	$325	0.69

Table 17 – 2009 Maine Small Employer Group Premiums

[11] Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2010.

7.2. Small Group Market Rating Practices

The current definition of the Small Group Market in Maine is defined as two to fifty employees. However, if a carrier does not participate in the Individual Market, carriers must include sole proprietors in their small group rating pool. [12] Note that the ACA defines the Small Group Market as one to fifty employees. It is unclear whether sole proprietors or self-employed individuals may have the option to purchase insurance through the Small Group Market in CY 2014.

Table 18 summarizes the rating practices that occur currently in the Small Group Market and also outlines which practices may be allowed in CY 2014 under the ACA. As shown, Maine currently allows rates to vary by +/-20% (1.5 to 1 band) for age, geography, and SIC combined. In addition, group size adjustments are currently allowed.

Rating Practices Before and After ACA		
Rating Factor	**Up to Oct 2011**	**ACA CY 2014**
Age	1.5 to 1 Band	3 to 1 Band for Adults
Geography	1.5 to 1 Band	Allowed
SIC	1.5 to 1 Band	Not Allowed
Group Size	Allowed	Not Allowed
Age, Geography, and SIC in one Band	Yes	No

Table 18 – 2009 Maine Small Employer Group Rating Practices Before and After ACA

In CY 2014, we believe carriers will be required to limit their rating practices for non-grandfathered business and that this will cause some pricing disruption in the market. Below we provide a brief description of each of the rating practices highlighted in Table 18.

Age - All carriers surveyed currently use some form of age rating when setting policy premiums. This means that carriers will surcharge premiums for older individuals and discount premiums for younger individuals. The surcharge or discount is based on the average demographics of the employer group. Depending on the employer group's demographics, some members may be rated with a surcharge while other members may be rated with a discount and these effects may offset each other when combined across the entire demographics of that employer group. If Maine moves toward the rating limitations allowed in CY 2014 under the ACA, age adjustments will need to be within a 3 to 1 band for adults, meaning that a premium rate cannot be greater than 3 times the lowest rate due to age. Note that this means that the 3 to 1 age band restriction applies to the member age factors, rather than the composite group age factors. Today, Maine allows age, geography, and industry adjustments but limited to a maximum variation of

[12] http://www.maine.gov/pfr/insurance/reports/BOIHealth_Insurance_report2-12-2010finalFSl.htm

1.5 to 1 around an index rate. In practice, many carriers calculate a combined rating factor for each employer group and then limit the resulting rating factor to the 1.5 to 1 band. This allows carriers to use age rating factors that are greater than a 1.5 to 1 band today as long as the final rating factor complies. ACA requires the actual age factors that carriers use to be within a 3 to 1 age band. This requirement is a very different practice compared to what is done today.

Geography - Some carriers apply a geography adjustment when setting premiums for the Small Group Market. However, since the geography adjustment is required to be within the 1.5 to 1 band, the variation in geography adjustments is small. Generally, the regions in the North are surcharged and regions in the South are discounted. If geography is taken out of the rating band, the variation in geography rating adjustments may increase and carriers will have the ability to surcharge the higher cost areas greater and give further discounts to the lower cost areas. Further analysis on the impact of geography is shown later in this report. In CY 2014, per the ACA, the state will be required to define rating regions[13]

SIC - Some carriers in the Maine Small Group Market today apply an industry adjustment (SIC). However, since the industry adjustment is required to be within the 1.5 to 1 band, the variation in these adjustments is small. In CY 2014, this practice will no longer be allowed.

Group Size Adjustment - All carriers charge a group size adjustment. The overall average rating band for group size in CY 2009 is 1.18. That is, we have estimated that the premiums of the smallest groups are 18% higher than the premium of the largest groups due to group size. The average group size adjustment decreases as the group size increases. In 2014, carriers will not be able to apply a group size adjustment to premiums of non-grandfathered business.

7.3. Small Group Market Premium Discounts/Surcharges

Like the Individual Market, every group premium charged in the Small Group Market is comprised of various components due to the rating discounts and surcharges used by insurance carriers as indicated in Section 7.2. Table 19 shows the distribution of surcharges and discounts due to age, geography and SIC combined[14]. This table also shows the distribution of current surcharges and discounts due to group size adjustment. For example, 55% of the Small Group Market received a premium discount due to age, geography and SIC. Also, 9.6% of the market received an average premium surcharge of 35% due to group size adjustment.

[13] Section 2701(a)(2)(A) of the ACA

[14] GA is estimating premium discounts and surcharges based on 2009 annual revenue combined. Since insurance carriers generally set premiums on a quarterly basis, the discounts and surcharges that GA calculated will not align perfectly within a +/-20% rating band. In addition, carrier application of the rating band varies, which will also skew results above.

	Age, Geography & SIC		Group Size	
Surcharge/Discounts	% Distribution of Members	Average Surcharge/Discount	% Distribution of Members	Average Surcharge/Discount
less than -20%	2.1%	-22.8%	0.0%	0.0%
-20% to -10.1%	32.0%	-15.7%	0.6%	-13.0%
-10% to -0.1%	21.3%	-5.3%	80.2%	-4.6%
0% to 9.9%	15.3%	4.4%	8.3%	3.0%
10% to 20%	12.8%	14.5%	1.3%	14.5%
greater than 20%	16.5%	24.8%	9.6%	35.0%
Total	100.0%	0.0%	100.0%	0.0%

Table 19 – 2009 Maine Small Employer Group Surcharges & Discounts

7.4. Small Group Product Offerings

In addition to the rating factors described in section 7.2, premiums also reflect the benefits and cost sharing of the plan chosen by the employer group. Groups purchasing more comprehensive benefits will be charged higher premiums. In order to understand the value of the benefits purchased, we have calculated an actuarial value for every group within the Small Group Market. We employed the same methodology used in the Individual Market which is discussed in further detail in the Appendix. We have estimated the average actuarial value for the Maine Small Group Market to be approximately 0.69. That is, approximately 69% of medical expenses will be paid for by the insurance carrier and 31% of medical expenses will be paid for by the member on average. This contrasts with the Maine Individual Market where the average actuarial value is 0.45.

Table 20 shows the distribution of deductible levels in the Small Group market. Note that this distribution is based on reviewing the single policy deductible levels and does not reflect the true deductible levels for family policies. However, it is our best proxy. As shown, approximately 45% of the market are enrolled in deductible levels that are $2000 or greater. As stated within the ACA, small groups will no longer be allowed to have deductibles greater than $2,000[15]. We estimate that 4.5% of the market is enrolled in a $5,000 deductible plan. In the truest form, this means that insurance coverage does not begin until an individual has spent $5,000 out of pocket on medical expenses. However, there are exceptions as some products exclude benefits like preventive services from the deductible.

[15] Section 1302(c)(2)(A)(i) of the ACA

Single Policy Deductible Range	% Member Distribution	% Group Distribution
less than $500	5.5%	4.4%
$500	15.9%	14.4%
$501 to $1,000	27.9%	26.7%
$1,001 to $2,000	5.8%	6.6%
$2,001 to $2,500	26.2%	24.4%
$2,501 to $4,000	14.1%	15.3%
$5,000	4.5%	8.2%
Total	100.0%	100.0%

Table 20 – 2009 Maine Small Employer Group Deductible Ranges

In CY 2014, we have assumed the minimum actuarial value allowed in the market will be 0.60. We have calculated that 11% of the members in the Small Group Market are currently enrolled in products with less than a 0.60 actuarial value. Table 21 below shows average deductibles by ranges of actuarial values for CY 2009. For illustrative purposes, we have grouped the Small Group Market members into the four product categories assuming existing products with an actuarial value of 0.55 to 0.65 would be considered Bronze, 0.66 to 0.75 would be Silver, 0.76 to 0.85 would be Gold and above 0.85 would be Platinum.. The average deductible decreases significantly as the actuarial value increases, with an overall average of $1,802. Note that the deductible is only one of several pieces of the benefit design that is taken into account when determining the actuarial value.

Actuarial Value Range (Prior to HCR)	% Member Distribution	Average AV	Average In-Network Single Deductible
Less than .55	5.5%	0.50	$4,669
BRONZE (0.55 to 0.65)	40.5%	0.62	$2,713
SILVER (0.66 to 0.75)	26.7%	0.72	$1,118
GOLD (0.76 to 0.85)	22.8%	0.79	$639
PLATINUM (greater than 0.85)	4.4%	0.91	$14
Total	**100.0%**	**0.69**	**$1,802**

Table 21 – 2009 Maine Small Group Market Deductibles by Actuarial Value

In addition to varying cost sharing elements, member benefits also vary. We believe in CY 2014 the definition of essential benefits will include pharmacy coverage. More than 99% of the Small Group Market currently has pharmacy benefits.

7.5. Small Group Market Financial Data

In CY 2009, the overall premium PMPM was $325 and incurred claims PMPM was $287. The ratio of claims to premium (loss ratio) for the Individual Market was 0.88.

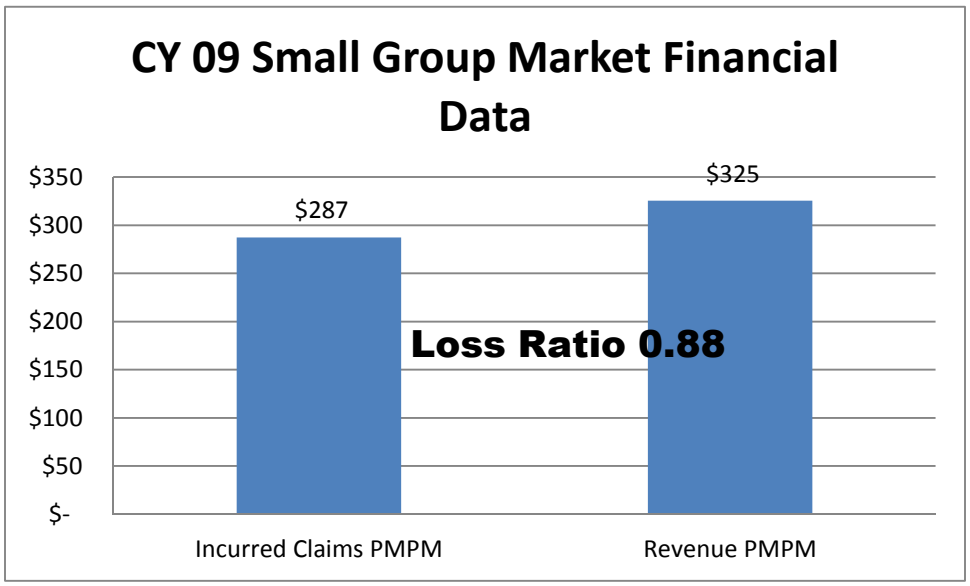


Table 22 – 2009 Maine Small Group Market Financial Data

8. Small Group Market Premium Impacts due to ACA Reforms

There are a few changes that will take place in CY 2014 that will affect Small Group premiums. We have focused our modeling on four categories of change which are listed below. Please note that this modeling exercise is performed on the total small group premium which includes the employer and employee portions of the premium. Also note, these premium impacts do not reflect the impact of annual medical trends. Additional information on methodology and assumptions can be found in the Appendix.

(1) **The impact of rating limitations:** Since Maine's Small Group Market is already highly regulated on age and geography rating, the Maine BOI requested that we model the premium impacts to the Small Group Market under two scenarios: (1) No changes to Maine's current rating regulations on age and geography. Eliminate the ability to adjust premiums for industry and group size. (2) Changing Maine's current rating regulations to what will be allowed within the ACA. The table below illustrates the differences under each scenario.

Rating Factor	Scenario 1	Scenario 2
Age	1.5 to 1 Band	3 to 1 Band for Adults
Geography	1.5 to 1 Band	Allowed
SIC	Not Allowed	Not Allowed
Group Size	Not Allowed	Not Allowed
Age and Geography in one Band	Yes	No

Table 23 – Maine Small Group Market Scenarios

Under scenario 1, there will be fewer changes to premiums since we are assuming no change to rating practices pertaining to age and geography. However, under Scenario 2, the cross subsidizations across ages and geographies will lessen thus creating "winners & losers". That is, some groups will receive rate increases and some will receive rate decreasesIn addition, taking the geography adjustment out of the rating band will increase premiums for more costly regions and decrease premiums for less costly regions. However, we believe the rating limitation changes alone will not affect the overall premium.

(2) **The impact of product limitations:** While the essential benefits coverage has yet to be defined, we have assumed that the minimum actuarial value allowed in 2014 will be 0.60. This will require some groups within the market to "buy up", resulting in premium increases. Since there are few small group employers below 0.60, the overall premium impact is **1.1%**.

(3) **The impact of Sole Proprietors Entering the Small Group Market:** It is unclear whether the ACA defines the Small Group Market as 1 to 50 employees or 2 to 50 employees. If the former is true, there may be some market disruption as sole proprietors exit the Individual Market and enter the Small Group Market. The Maine BOI has asked GA to model the impact of sole proprietors entering the Small Group Market. Since sole proprietors generally have a less healthier risk profile than larger small groups, we have assumed overall premiums would increase **1.0%.**

(4) **The impact of the new exchange market:** In CY 2014, with the introduction of tax subsidies there will be a portion of small employers that drop coverage to have their employees seek coverage within the Individual Market exchange. There will also be some individuals who add coverage through their employers, but the combined effect is a net decline in the Small Group Market. Dr. Gruber's modeling results estimate that the selection impact of this to be an approximate **6% to 7%** increase in premiums.

Table 24 shows the resulting premium changes due to the impact of rating, product limitations, sole proprietors and selection impact under Scenario 1. 89% of the Small

Group Market will experience an increase. 8% of the market will experience an average premium reduction of 20% while 60% of groups will experience an average premium increase of 15%. The overall average premium change is 8.2%. The majority of the rate changes are due to the elimination of group size adjustment and the selection that will take place in CY 2014.

	Scenario 1	
Premium Change	% Member Distribution	Avg Premium Change
less than -10%	8.3%	-20.4%
-10% to -5%	1.5%	-6.7%
-4.9% to 0%	1.0%	-1.1%
0.1% to 5%	6.9%	3.6%
5.1% to 10%	22.0%	8.7%
greater than 10%	60.3%	14.8%
Total	100.0%	8.2%

Table 24 – Maine Small Group Premium Impact – Scenario 1[16]

Table 25 shows the resulting premium changes due to the impact of rating, product limitations, sole proprietors and selection impact under Scenario 2. The overall differences between the two scenarios are relatively small. Expanding the age band to 3 to 1 has less of an effect on the Small Group Market due to the averaging of age adjustments for each employer group. In addition, under Scenario 2 there will be a greater number of Small employer groups dropping coverage as compared to Scenario 1. This translates into a greater selection effect for Scenario 2.

	Scenario 2	
Premium Change	% Member Distribution	Avg Premium Change
less than -10%	8.5%	-20.8%
-10% to -5%	2.7%	-7.0%
-4.9% to 0%	4.3%	-2.3%
0.1% to 5%	7.8%	2.7%
5.1% to 10%	19.8%	8.0%
greater than 10%	56.8%	18.0%
Total	100.0%	9.3%

Table 25 – Maine Small Group Premium Impact – Scenario 2[17]

Table 26 shows premium changes by group size. As expected, premiums decrease for smaller groups and increase for larger groups. This is due to the elimination of group

[16] Premium changes do not reflect annual medical trends.
[17] Ibid.

size adjustments. Under Scenario 2, the smaller groups actually experience a premium increase (0.6%). This is because smaller groups generally have older demographics and the expansion of the age band to 3 to 1 will increase rates for older groups.

	Group Size				
	1 to 5	6 to 9	10 to 25	25 to 50	Total
Scenario 1 Average Premium Impact	**-2.2%**	**9.6%**	**13.9%**	**15.5%**	**8.2%**
Scenario 2 Average Premium Impact	0.6%	9.8%	14.3%	15.6%	9.3%
% Member Distribution	30.5%	15.8%	32.2%	21.5%	100.0%
% Group Distribution	72.2%	12.4%	11.9%	3.5%	100.0%

Table 26 – Small Group Premium Change by Group Size[18]

Table 27 shows the average premium change by region under Scenario 2. Region definitions are found in the Appendix. Since Scenario 2 allows carriers to bring geography outside of the rating band, there will be variation in premium change by region. As expected, the highest increases are in Down East, North, and North Central. By taking out the geography adjustment from the rating band, we eliminate any cross subsidies across regions.

Scenario 2			
Region	% Member Distribution	% Group Distribution	Premium Change
Down East	5.5%	5.5%	19.0%
Lakes & Mountains	19.7%	19.0%	9.5%
Mid Coast	10.5%	12.0%	8.6%
North	3.0%	3.2%	27.6%
North Central	10.9%	9.9%	15.6%
South	49.5%	49.3%	5.2%
Other	0.9%	1.0%	9.9%
Total	100.0%	100.0%	9.3%

Table 27 – Small Group Premium Change by Region[19]

9. Maine Large Group (51 to 100) Market

We have estimated that as of year-end 2009, there were approximately 28,000 members, 16,000 subscribers and 350 employer groups in the Maine Large Group (51 to 100)

[18] Ibid.
[19] Ibid.

Market. In addition, we have estimated the average actuarial value for this population to be 0.74. Finally, we have estimated the loss ratio for this population to be 0.85 the ratio of incurred claims to premium in CY 09.

9.1. Large Group (51 to 100) Market Rating Practices

As expected, the rating formula for the Large Group (51 to 100) Market is much more complex than the Individual and Small Group Markets. There are four carriers in the Large Group (51 to 100) Market and each takes a slightly different approach when it comes to rating the 51 to 100 segment. All approaches use some form of claims experience in setting premiums for each employer group. Some carriers may aggregate their market into cohorts and then calculate a required revenue requirement using claims experience for the cohort. The group specific premiums are then derived from this revenue requirement. Other approaches include traditional experience rating where an employer group's claims experience is blended with a manual rate using weightings that are dependent on the size of the group.

By CY 2016, the 51 to 100 market will be defined as part of the Small Group Market. This means for non-grandfathered business, carriers will no longer be able to use any sort of experience related adjustment to the rates, whether that is direct claims experience or historical loss ratios. The only adjustments allowed would be age, area and smoking. Carriers will have to revise their rating formula to account for this change which will result in "winners" and "losers." Those groups that were higher utilizers of medical care may benefit from this rating change and experience premium reductions. Those groups that are lower utilizers of medical care may experience premium increases.
In addition to rating formula changes, there will also be a merged market effect. The impact of this effect is found in Section 11.

10. Analysis of Budgetary Effects

Section 3 explored the impacts of the ACA on coverage in Maine. In this section, we extend the analysis to consider budgetary effects for households, employers, and the state.

10.1. Household Budgets

We use a budget-based approach to evaluate the effects of the ACA on household spending. We compare the additional household benefits produced by the ACA with the additional household costs due to the ACA to determine the net impact on household budgets.

Households derive budgetary benefits from three sources under the ACA. The first is the higher wages that arise from reduced employer spending, through firms dropping coverage and lower employer contributions towards health insurance (although this is

partially offset by higher ESI enrollment among those previously eligible). This reduced employer spending is passed through in the form of higher wages to employees. The second is exchange tax credits; for this analysis, we consider only the tax credits received by those who would be uninsured absent the ACA. Those who are insured either with or without the law will already see the benefits of the tax credits as a decrease in premium spending, and thus it would be double-counting to consider them here. The third component is Medicaid expenditure on those gaining Medicaid coverage; once again, benefit is also only considered for those who would otherwise be uninsured to eliminate concerns of double-counting for the previously insured. So those individuals already enrolled in Medicaid see no benefits from the expansion in the program.

At the same time, there are four sources of household costs impacted by the ACA. The first is ESI premiums paid by employees, which will go down as employers drop insurance, but may rise as the remaining employers shift the cost of insurance to their employees. The second cost component is spending on Individual Market premiums. The exchanges created by the ACA dramatically increase Individual Market enrollment, and so spending on Individual Market premiums shows a large increase. The third measure is out of pocket spending, which is health care spending that is paid directly by the household, through cost sharing like deductibles, copayments and coinsurance for the insured or for care received by the uninsured. The fourth and final cost component is change in taxes, which is the result of higher wages as firms that drop insurance raise their employees' compensation through direct pay.

	Status Quo (in millions)	After ACA (in millions)	ACA Effect (in millions)	Per Household Effect
Wages	$38,430	$38,470	$40	$60
Exchange Credits	$0	$290	$290	$550
Public Insurance	$0	$250	$250	$490
Additional Benefits			$580	$1,100
ESI Contribution	$1,240	$1,140	-$100	-$180
Non-group Premiums	$200	$260	$60	$120
OOP Spending	$900	$840	-$70	-$120
Taxes	$9,360	$9,510	$150	$270
Additional Costs			$40	$90
Net Effects			$540	$1,010

Table 28 – Household Budget Effects in CY 2019[20]

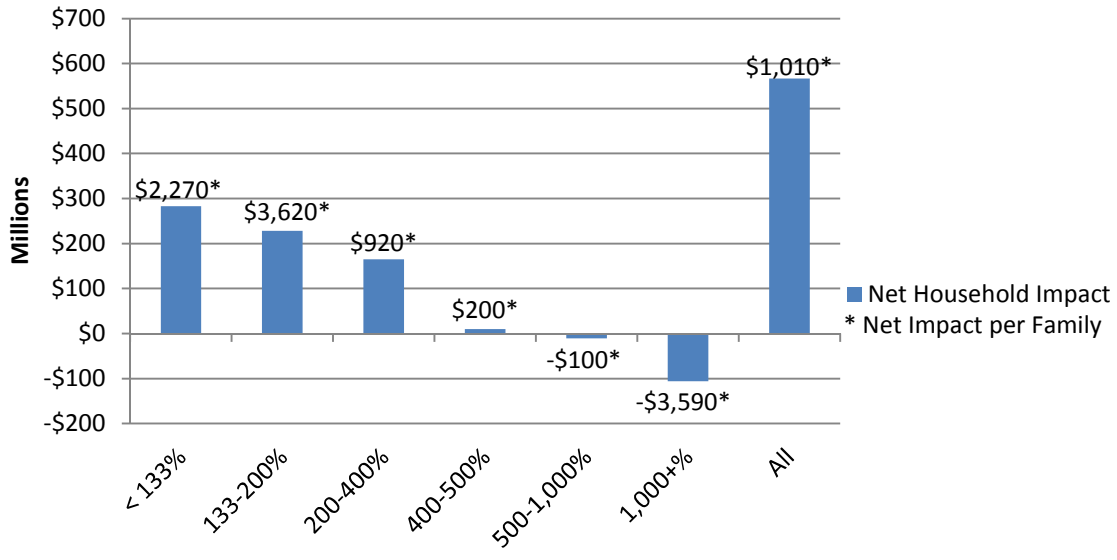
Putting this all together, we find that the ACA will have a net positive impact on Maine households in 2019, and Maine household budgets will improve by $540 million, or by $1,010 per household for the year. This is due to large benefits to households in the form of higher wages (an increase of $40 million, or $60/household), exchange credits (worth $290 million, or $550 per household) and increased public coverage (worth $250 million, or $490 per household). The total benefits amount to $580 million, or $1,100 per

[20] Note: Columns may not sum due to rounding

household. The offsetting costs are smaller. Employer-sponsored insurance (ESI) premiums paid by employees falls by $100 million (or $18 per household) in aggregate due to employer insurance dropping. There is a rise in non-group insurance spending as individuals move to the non-group market under reform, but these costs are largely offset by lower out-of-pocket spending. The major new net cost is the taxes paid by residents, both on their higher wages and through the newly increased Medicare tax on high-income households, which amounts to $150 million or $270 per household per year.

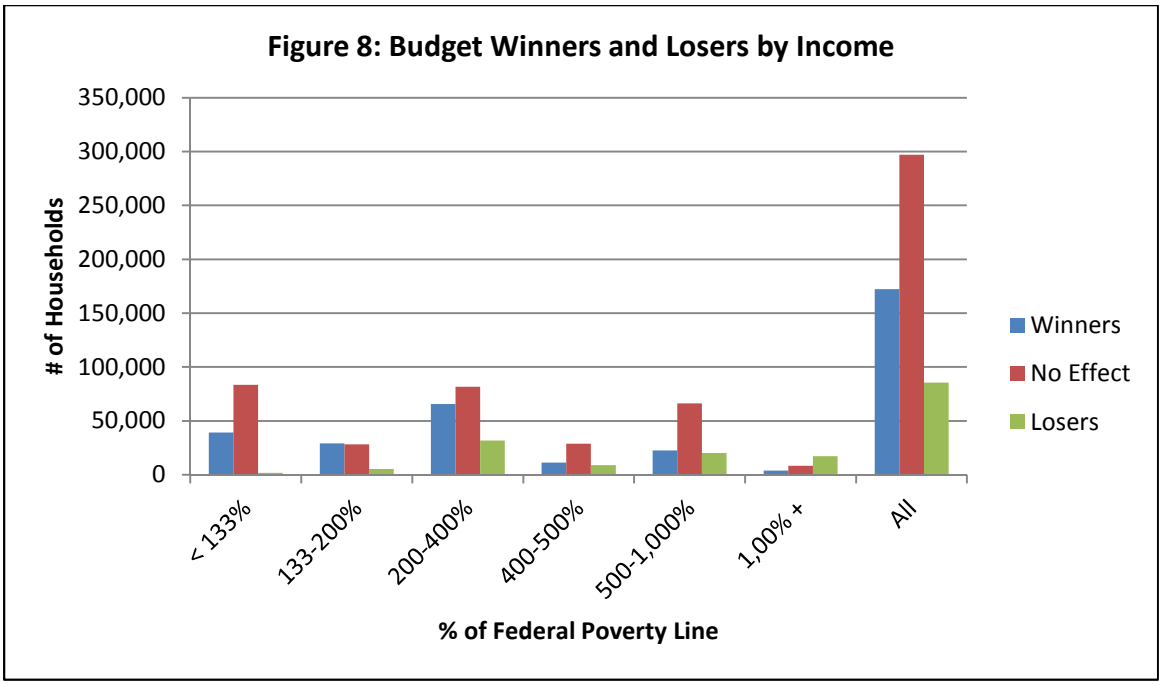
While the aggregate budget effect is positive, there are some differences when the household effects are isolated for different income levels. Figure 7 details the budget effects by income level.

Figure 7: Net Household Impact by FPL in 2019



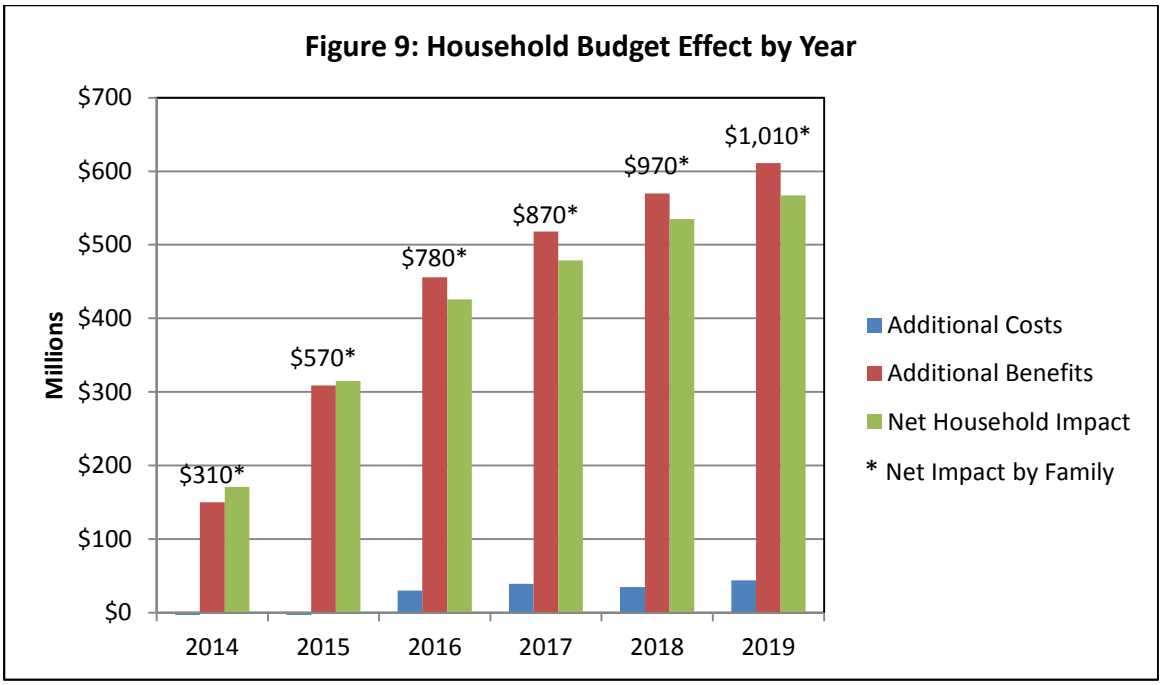
Lower income households reap the majority of the benefits of the ACA. Households making less than 133% of FPL receive almost $300 million in benefits, which equals a benefit of $2,270 per household. Once income reaches 500% of FPL the benefits become negative. Households between 500% and 1,000% of FPL will each lose about $100 due to the ACA. The hardest hit are households over 1,000% of FPL. In aggregate they lose about $100 million, or $3,590, per household. This is largely due to the increased Medicare tax for high-income households.

Another way to examine these impacts is to consider how many households win, lose or are unaffected by the ACA.



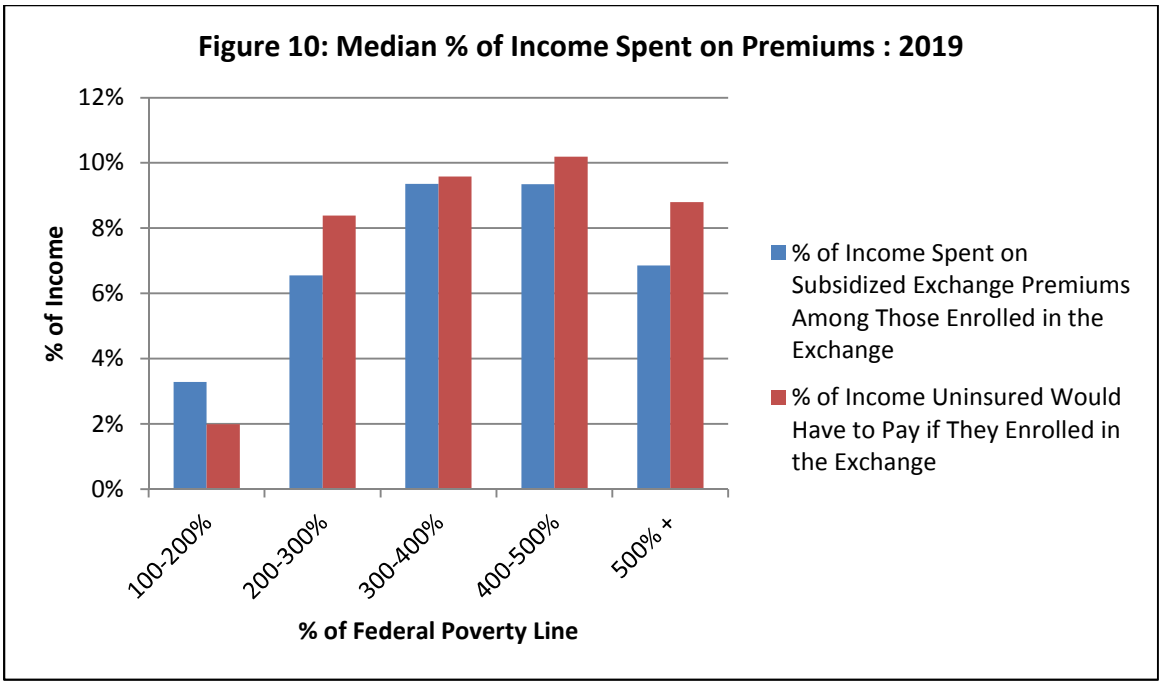
We see here that for lower income groups, there are a large number of winners as well as a large number of unaffected households, with a very small numbers of losers. For those in the 200-400% of poverty range, there are similar numbers of winners and unaffected households, and fewer lowers. For those in the 400-1000% of poverty ranges, the largest group is those who are not affected, while winners outnumber losers. The only group for which the losers are largest is those over 1,000% of poverty. Overall, there are 172,000 households who are winners, 86,000 who are losers, and 297,000 who are unaffected.

The overall household benefits are expected to rise with time. Figure 9 shows the increase in budget effects from 2014 to 2019.



In the first year of ACA implementation, there is an aggregate positive effect of $170 million, or $310 per household. By 2016 the total aggregate impact reaches about $430 million, or $780 per household. At the end of the decade the aggregate impact will be $570 million, or $1,010 per household.

Aside from impacting household budgets, the ACA also aims to make insurance more affordable. To assess the impact of the ACA on affordability, we look at the median percentage of income required to purchase insurance. Figure 10 presents these results by income range for two categories: the exchange population and the uninsured population if they had purchased an exchange policy.

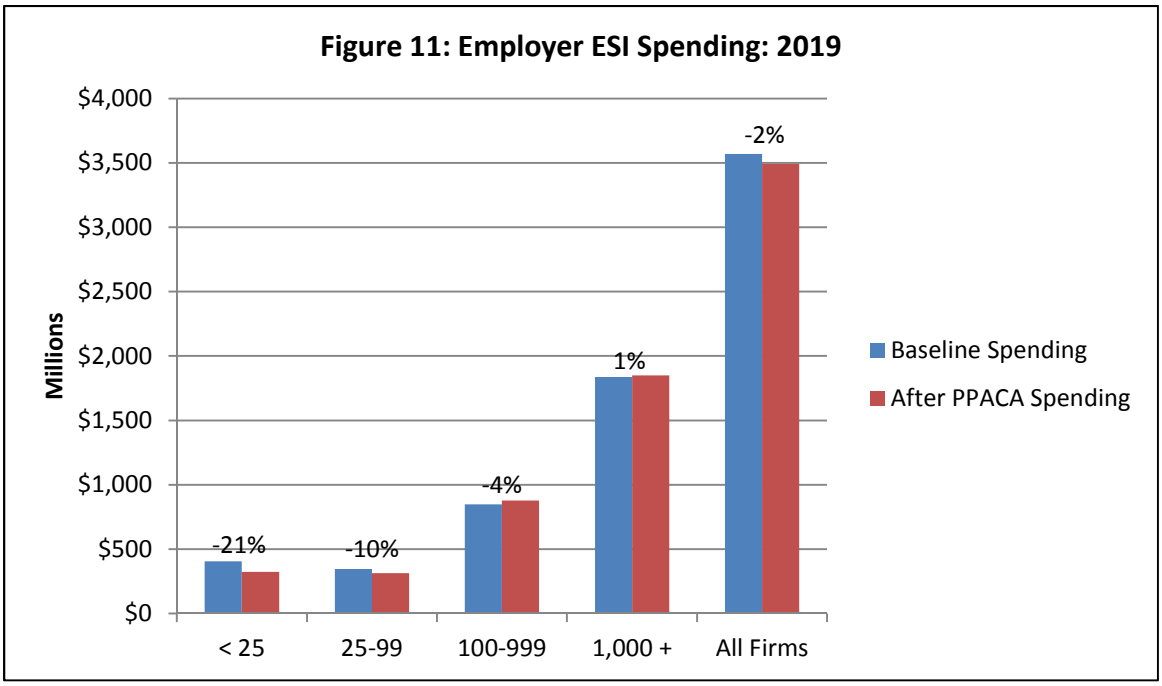


The exchange subsidies make insurance affordable for the poorest Maine residents. The median household between 100-200% of FPL pays only 3% of income for its exchange premiums. The typical uninsured household in this income range would only have to pay about 2% of income for an exchange premium. For middle-income households between 300-400% of FPL exchange premiums are much less affordable, possibly exposing a weakness in the exchange subsidies. The median exchange household in this income range pays a little more than 9% of income, while the median uninsured household would have to pay 10% of income. Even as we get to higher income ranges and away from the exchange subsidies premiums are still somewhat high relative to income. Those who join the exchange spend 7% of their income on premiums, while for the typical uninsured person the cost would be 9% of income.

10.2. Employer Spending

One of the major uncertainties in modeling the effect of the ACA is in estimating the impacts on employers. The estimates from GMSIM rely on the best available evidence from past research on employer-sponsored insurance, but the ACA is introducing an entirely new environment to which employers may respond differently than before. Therefore, while the estimates below are the best available (and are similar at the national level to those from CBO), this uncertainty should be kept in mind in interpreting the findings.

The ACA will have modest effects on employer spending for ESI. Firms will spend a bit less as there is slight ESI erosion, and as they raise their employee's contributions given the exchange's presence of a viable alternative for coverage. Figure 11 details the change in ESI spending in 2019.



Overall, Maine employers will spend about 2% less on ESI premiums in 2019. Smaller firms will see larger reductions in spending. Firms with less than 25 employees will see ESI spending fall by 21% and firms with 25-99 employees will see spending fall by 10%. This is because most of the firm dropping and subsequent ESI erosion occurs in small firms. Larger firms which are mostly unaffected by the ACA's provisions see modest increases in ESI spending.

11. Merged Market Analysis

In CY 2014, states will be faced with the policy decisions to merge the Individual and Small Group Market. Furthermore, in CY 2016, states will be required to merge the Small Group Market with the Large Group (51 to 100) Market. Merging market segments require insurance carriers to pool the claims experience together when establishing premium rates for a market. Currently, Maine has three separate market segments. Generally, the Individual Market premiums are calculated using the cost and utilization experience of the Individual Market. The Small Group Market premiums are calculating using the cost and utilization experience of the Small Group Market. Finally, the Large Group (51 to 100) Market premiums can be established in a variety of ways since the premiums of this market segment are not regulated. When markets are merged, one market segment ends up subsidizing the other based on their relative claims experience after adjusting for allowable rating adjustments.

11.1. Market Segment Comparisons

This section provides an overview of the three markets analyzed. We have used CY 09 and some additional 2010 data collected from our survey. Table 29 shows that as of June 2010, the Small Group Market made up 62% of the "merged market", the Individual Market made up 24% and the Large Group (51 to 100) Market made up 14%. The Small Group Market was more than 2 times the size of Individual Market and more than 4 times the Large Group (51 to 100) Market.

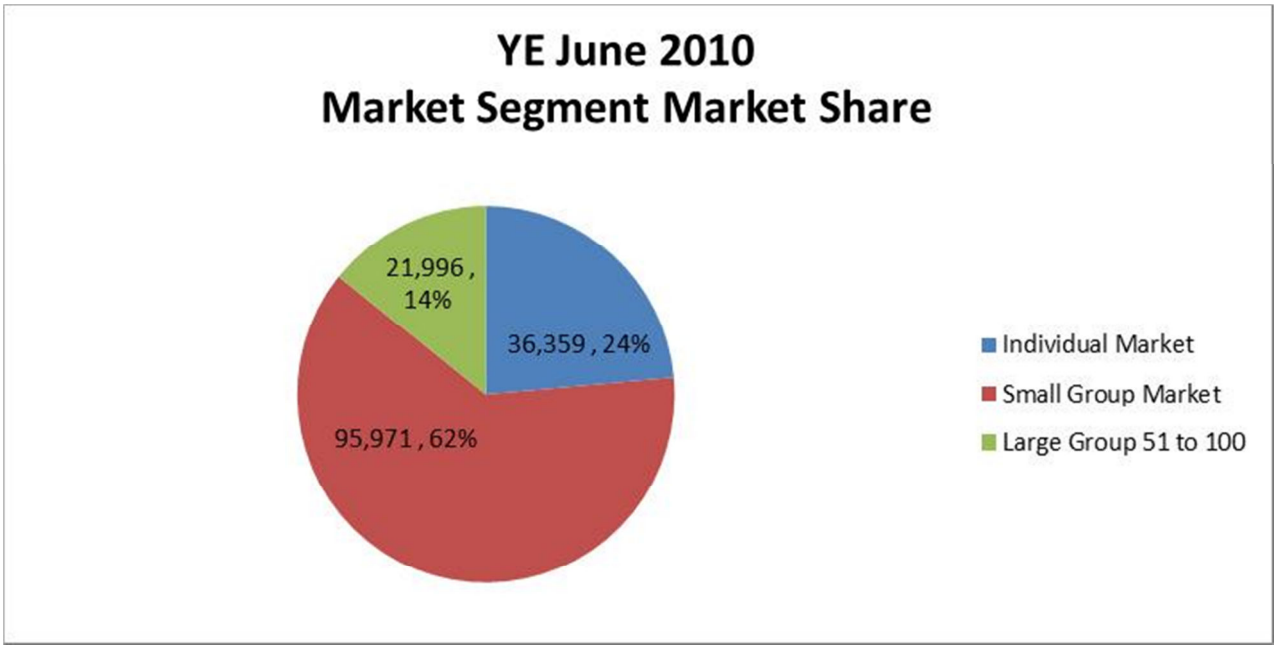


Table 29 – Maine Market Segment Market Share

Table 30 through Table 32 shows demographic distributions for the three market segments. As shown, 53% of the Individual Market is between the ages of 45 and 64 as compared to 37% and 36% for the Small Group and Large Group (51 to 100) Markets, respectively. The Individual Market is much older with an average age of 42 years as compared to the Small Group and Large Group (51 to 100) Markets with average ages of 37 and 35 years, respectively.

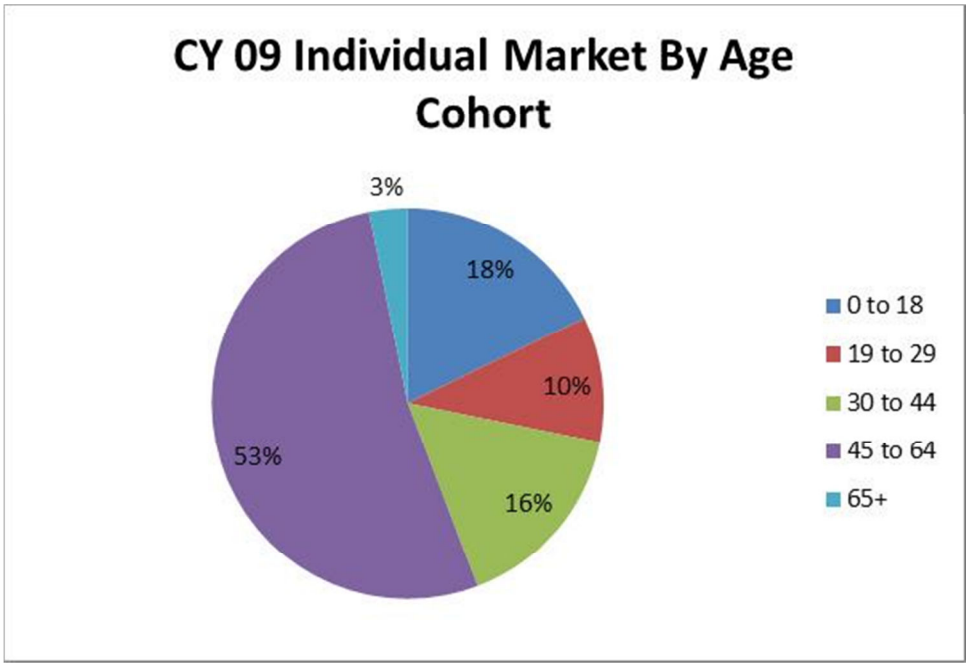


Table 30 – Maine Individual Market Age Demographics

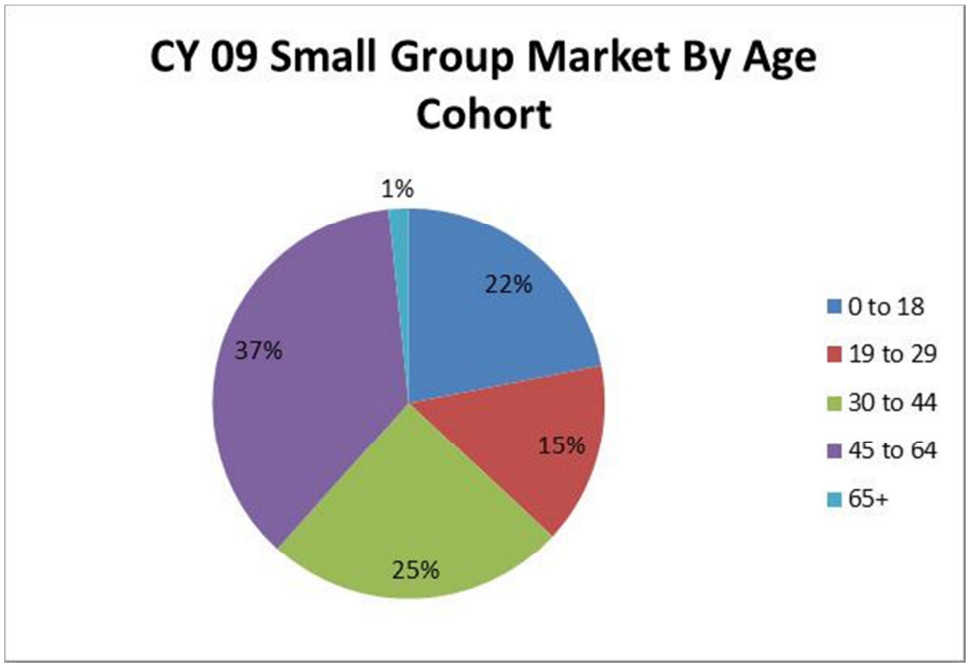


Table 31 – Maine Small Group Market Age Demographics

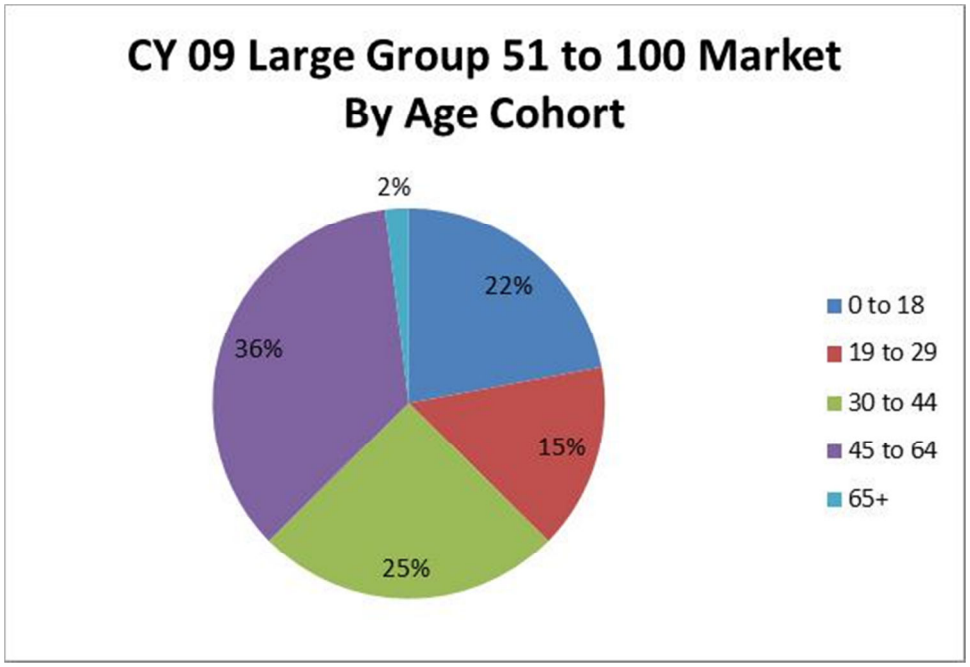


Table 32 – Maine Large Group (51 to 100) Market Age Demographics

As shown in Table 33, we estimate the actuarial value for the Small Group Market is 24 basis points higher than the Individual Market or the benefits are 54% richer. The Large Group (51 to 100) Market's actuarial value is 5 basis points higher than the Small Group Market.

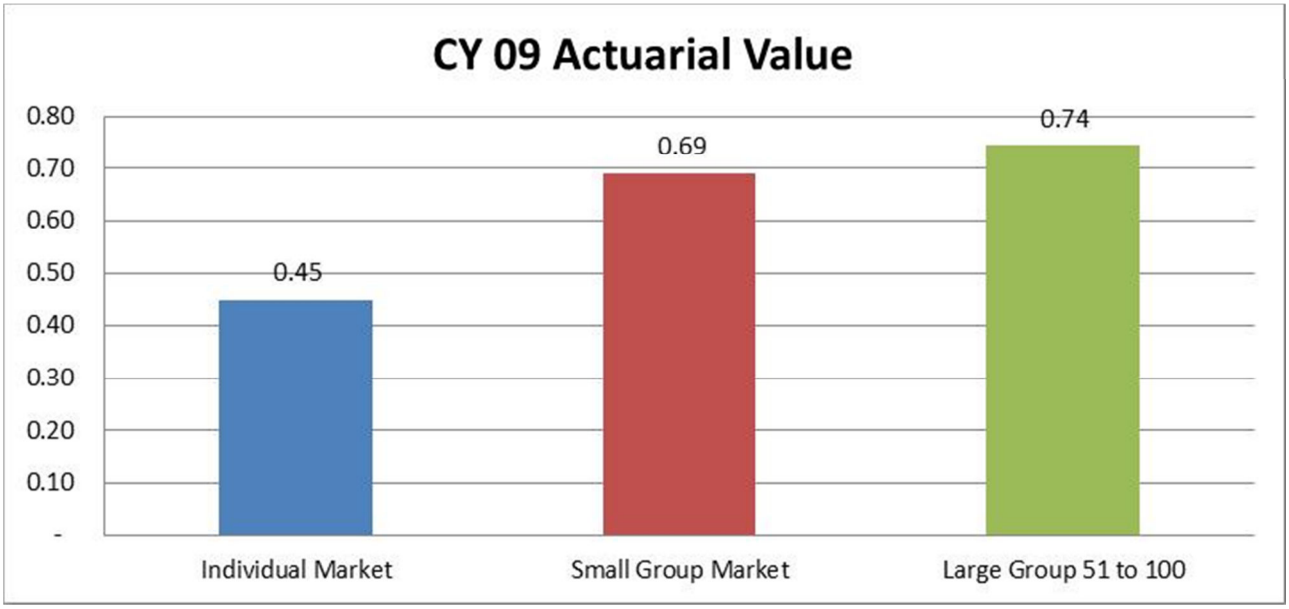


Table 33 – Maine Actuarial Value Analysis

Table 34 compares financial data for the three market segments. As shown the loss ratio (ratio of incurred claims to revenue) for 2009 is 0.81 for the Individual Market, 0.85 for

the Large Group (51 to 100) Market and 0.88 for the Small Group Market. Premiums in the Small Group Market are 9% higher than the Individual Market.

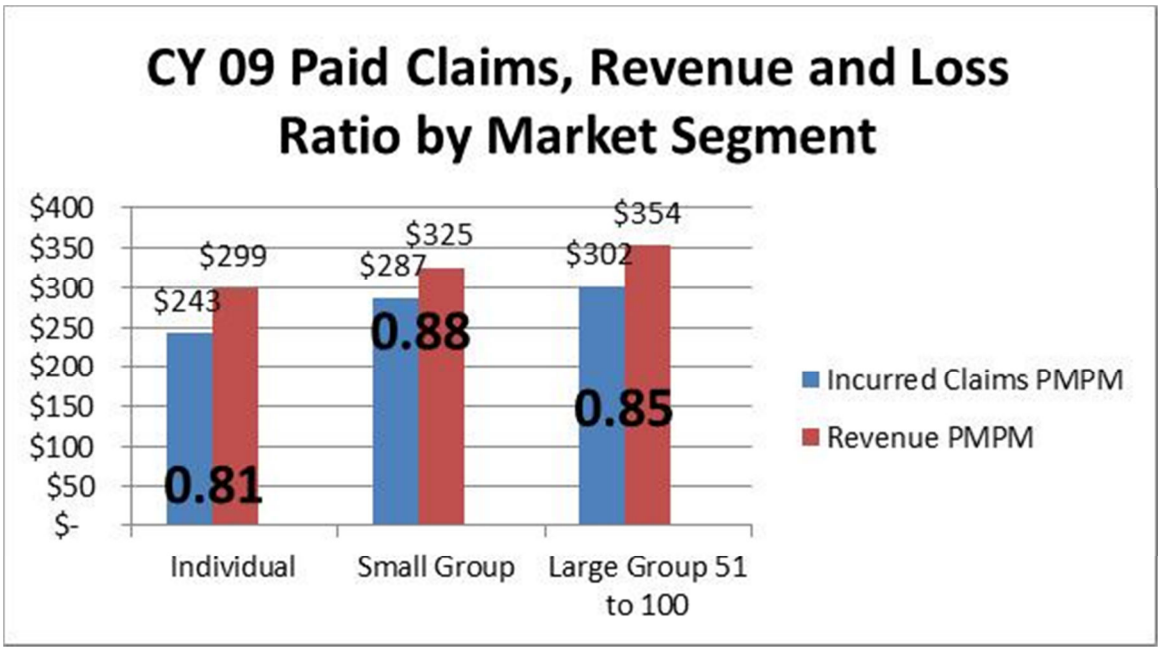


Table 34 – Maine Financial Analysis

11.2. Premium Impacts due to Merging Markets

The impact of merging markets can vary based on when the merger occurs. In CY 2014 and beyond, the Individual Market will look quite different than it does today. There will be more members in the market. In addition, this market's relative claims costs may change. The Small Group Market will experience membership shifts and claims cost changes as well.

GA modeled the premium impact of three merged market scenarios:

(1) Individual Market and Small Group Market
(2) Small Group Market and Large Group (51 to 100 Employees) Market
(3) Individual Market, Small Group Market and Large Group (51 to 100 Employees) Market

Since these markets will look quite different from what they do now, we have estimated the impacts to premium rates using CY 2009 data first. We then estimated how the relative claims costs would change and how enrollment would change based on output from Dr. Gruber's microsimulation model. Using this information, we provide premium impact results for CY 2019. We have performed analysis on CY 2016 as well, however since the results do not materially change we have not provided them in this report. All of these impacts were calculated assuming Scenario 1 in the Individual and Small Group Markets. Our approach on modeling these premium impacts can be found in the Appendix.

Table 35 shows our results for the two time periods; if markets were merged "today" and if markets were merged in CY 2019. If the Small Group and Individual Markets were merged today, premiums for the Individual Market would decrease 15% and premiums for the Small Group Market would increase 7%. This is due to the Individual Market's higher morbidity and the fact that the Small Group Market today is more than double the size of the Individual Market. If the Small Group Market and Large Group (51 to 100) Market were merged today, the premium change would be negligible as their morbidities and therefore expected claims costs are similar. Finally, if we merge all three markets today, the Individual Market premiums would decrease 15% and the other markets premiums would increase 6%. As we fold the Large Group (51 to 100) Market into the merged market, the higher morbidity of the Individual Market is spread over more members.

In CY 2019, the Individual Market grows to 95,000 and Small Group Market decreases modestly to 91,000. As mentioned earlier, the growth in the Individual Market is due to the premium tax subsidies provided through the exchange and the Individual Mandate. The decline in the Small Group Enrollment is due to employer groups dropping coverage. These estimates were produced from Dr. Gruber's microsimulation model. In addition, we estimate that this new Individual Market pool's claims experience would be approximately 0.5% more than what the market costs today. The new Small Group Market pool would cost approximately 6% more than it does today. We assume that the Large Group (51 to 100) Market remains stable in CY 2019. Merging the new Individual Market and new Small Group market in CY 2019 decrease Individual Market premiums 9% and increases Small Group premiums 12%. Since the Individual Market has more than doubled and the Small Group Market's morbidity has worsened, the premium reduction on the Individual Market is not as significant in CY 2019 and the Small Group premiums increase more. In addition, merging the Small Group and Large Group (51 to 100) Markets in CY 2019 increases the Large Group (51 to 100) Market premiums by 5% due to the worsening Small Group morbidity.

Due to the large growth expected in the Individual Market and some declines in the Small Group Market, merging markets will not reduce premiums in the Individual Market as much as if they were were merged today. Furthermore, we have estimated that the new Individual Market Pool in CY 2019 will not look significantly different than the existing Individual Market.

Enrollment	June 2010	CY 2019
Individual Market (IND)	36,000	95,000
Small Group Market (SG)	96,000	91,000
Large Group (51 to 100) Market (LG)	22,000	22,000

Premium Change	June 2010	CY 2019
Merge IND + SG	IND -15% SG +7%	IND -9% SG +12%
Merge SG + LG	SG 0% LG 0%	SG -1% LG +5%
Merge IND + SG + LG	IND -15% SG +6% LG +6%	IND -11% SG +10% LG +17%

Table 35 – Merged Market Premium Impact Analysis

12. Conclusions

By CY 2019, with the introduction of public insurance expansions, premium tax subsidies, the small firm tax credit, the Individual Market and SHOP exchanges, the individual mandate, and the various rating reforms, approximately 69,000 uninsured will become insured.

The Individual Market will be enrolled in more comprehensive products as some of these individuals will receive cost sharing subsidies and others will be required to purchase richer products. There will be significant premium increases in the this market with an estimated 57% of the market experiencing average increases of 37% as compared to pre reform premiums, even after accounting for tax subsidies. These large increases are primarily due to product limitations that will take place in CY 2014, so while members will see large increases in premiums, their benefit packages will be more comprehensive. The remaining 43% of the Individual Market will experience premium decreases, mainly driven by the tax subsidies.

Due to the rating reforms, the Small Group Market will also experience premium changes. In addition, there will be some selection as small groups drop coverage.

To mitigate the premium shocks in CY 2014, Maine may want to consider gradually introducing product limitations in the Individual Market. For example, the state could mandate that carriers must offer a pharmacy benefit and that deductibles must not be greater than $5,000. Other ways to mitigate the premium changes on the Individual Market could be in the form of subsidies through an additional state funded reinsurance program. Finally, since the markets are so diverse, it does not seem appropriate to merge

the Individual and Small Group Markets. Maine may want to revisit this approach once it understands the composition and size of the Individual Market in CY 2014 and beyond. Due to the passing of LD1333, Maine may experience some of the changes identified in this report earlier than CY 2014. A follow up study commissioned by the Maine Bureau of Insurance will assist the state in understanding the impacts of this new legislation. Finally, there are still many unknowns on how the federal government will rule on various provisions of the ACA and understanding how this will impact the Maine markets will be an evolving process.

13. Appendices

I. Data Collection and Aggregation

After conducting phone calls with many of the carriers in the Maine insured markets, Gorman Actuarial (GA) developed a survey instrument that would capture data for each member in the Individual, Small Group and Large Group (51 to 100) Markets. Data collected include fields such as age, geography, claims, premium, plan design information, and rating factors. For each carrier, we collected multiple datasets. One dataset was member level data and another was historical summary data. For the group market, we also requested group level data. A list of carriers that participated in this study is found below. Due to the complexity of the market, some carriers had difficulty providing information in the format required. We also found a large amount of variation in how carriers operate and report data. Upon receiving the data, GA valildated the information by comparing them to each other as well as the "Maine 940" reports and the Maine BOI website. Some common issues included inconsistencies among data sources, problems with allowed claims reporting, and incorrect premium reporting and incorrect plan design reporting. In addition, one carrier did not report rating information. This information was imputed by reviewing rate filing data. Imputed rating factors were checked against reported premium to ensure consistency. Another carrier could not provide allowed claims information at all. There was a considerable amount of communication between GA and the carriers to ensure that GA was interpreting the information received correctly. As a result, some carriers had to supply supplementary data sets. Once the data sets were "scrubbed", a master database was developed which combined all the carrier data sets into a single database for each market. The database for each market, along with additional information from the carriers (e.g. plan summary descriptions, rating factors and rating methodology) was used to perform the actuarial modeling as well as analysis for this report.

GA estimates that almost 100% of the Individual Market, 98% of the Small Group Market, and almost 100% of the Large Group (51 to 100) Market was surveyed. Membership estimates in this report are adjusted to reflect the membership of the whole market.

II. Carrier Participation

Gorman Actuarial surveyed five major carriers in the Maine Health Insurance Market. Several of the carriers have products and membership in some or all of the market segments, as described in Table 36.

Individual Market	Small Group Market	Large Group (51-100) Market
Anthem Blue Cross and Blue Shield	Anthem Blue Cross and Blue Shield	Anthem Blue Cross and Blue Shield
MEGA	Aetna HMO	Aetna HMO
Harvard Pilgrim Health Care	Aetna PPO	Aetna PPO
Harvard Pilgrim Health Care - DirigoChoice	Harvard Pilgrim Health Care	CIGNA Healthcare
	Harvard Pilgrim Health Care - DirigoChoice	Harvard Pilgrim Health Care

Table 36 – Carrier Participation

III. Region Definitions

For analyses that considered geographic location, region definitions were based on the county mappings described in Table 37.

County	Region
Aroostook	North
Somerset	North Central
Piscataquis	North Central
Penobscot	North Central
Washington	Down East
Hancock	Down East
Oxford	Lakes & Mountains
Franklin	Lakes & Mountains
Kennebec	Lakes & Mountains
Androscoggin	Lakes & Mountains
Sagadahoc	Mid Coast
Waldo	Mid Coast
Lincoln	Mid Coast
Knox	Mid Coast
York	South
Cumberland	South

Table 37 – Maine Region Definitions

IV. Premium Data

A. Individual Market

Premium data were collected for each policyholder in the Individual Market. There were two fields collected, monthly billed premium and annual premium. Some carriers charge premiums for each member within a policy while others charge fixed premiums at the policyholder level. In order for GA to report premium for each member within the Individual Market, member premiums were imputed. For some carriers, carrier rate filings were reviewed and premiums were imputed for each member using information from the filings. Imputed premiums

were checked against reported billed premium information to ensure consistency. For other carriers, member premiums were imputed using the following logic: For Individual Policies we assumed the annual billed premium per member per month. For Dual Policies, Employee with Children Policies, and Family Policies, we used premium rate ratios, member month exposure ,average family size of the policy and annual billed premiums to impute a monthly member premium. Sometimes the annual billed premium would look incorrect and so monthly billed premium was used and vice versa. Once premiums for each member were imputed overall premiums were checked against reported premiums for each policyholder to ensure consistency.

B. Small Group Market

For the Small Group market, most carriers start with a base rate and then apply a series of adjustments to calculate the final group rate. These adjustments are calculated by analyzing the characteristics of the group in its entirety. For example, an average age adjustment, an area adjustment, a group size adjustment, a benefit relativity adjustment and other applicable adjustments are applied to the base rate. The base rates are stratified into the various policy types, such as Single, Dual, Employee plus Child(ren), and Family. Each employee within a policy type for a given employer group will receive the same rate. Premium was reported in total for CY 2009 for each employer group by each carrier. The premium reported represents the total premium charged by the insurance carrier which will include both the employer's contribution and the employee's contribution.

V. Plan Design

GA collected plan design information for each policyholder in the Individual Market and for each employer group in the Group Market. Information collected includes deductible levels, coinsurance charge, copayments, and out of pocket maximums along with details about pharmacy coverage and pharmacy cost sharing. For carriers that had multiple deductibles on varying services, for reporting purposes, the deductible associated with the primary benefit was chosen. High level actuarial values were calculated using GA pricing models and the cost sharing elements listed above. The pricing model accounts for varying cost sharing by major service categories including inpatient, outpatient hospital, primary care visits, specialty visits, emergency room and pharmacy. For those carriers that had a modular benefit approach, that is the benefit package is a compilation of many products purchased together, the actuarial value was adjusted to reflect that certain benefits were not covered. (i.e. physician visits.)

VI. Rating Practices

GA collected the latest rating factors for each member in the Individual Market and for each group in the Small Group Market. Rating factors were collected as of the latest renewal date in 2009 to capture what was reflected in reported monthly billed premiums. For some carriers GA received each of the rating factors (age, geography, and industry), a combined rating factor and then an adjusted combined rating factor. Carriers would adjust their combined rating factor to comply with the +/-20% rating band. (1.5 to 1). For

other carriers, GA imputed rating factors by utilizing the rate filings. For the Individual Market, smoking adjustments were also collected and for the Small Group Market, group size adjustments were collected. For each carrier, all rating factors were normalized using the carrier's member month distribution. The normalized factors were used to estimate discounts and surcharges off the base rate.

Our results show that surcharges and discounts end up being greater than the +/-20% band. For the Individual Market, this is due to some carriers charging separate age adjustments for children. The +/-20% does not apply to children. Some carriers charge a smoking adjustment which is not within the +/-20% band. Finally, carriers apply the +/-20% band differently, as some do it on a quarterly basis, some do it on the base premium PMPM and others do it on a base subscriber rate. Due to these variations, the surcharges and discounts we calculate may not be entirely accurate however, we believe provide directional information on the magnitude and variability of premium adjustments.

VII. Premium Impacts due to the ACA – Individual Market

The analysis of the rating, premium and economic impacts of ACA involves an integrated approach using both actuarial modeling and economic microsimulation modeling. The actuarial modeling was performed by GA. This modeling utilizes claims, premium, membership, rating and plan design data collected from the insurance carriers that participate in the Maine Insured Markets. The first phase of the project involved a comprehensive survey of insurance markets in Maine that gathered detailed data for the Individual, Small Group and the 51-100 portion of the Large Group Market. Using these data, GA developed actuarial models that analyzed the change in premium for each member in the Individual Market and for each group in the Small Group Market due to the following changes:

A. Rating Limitations
B. Product Limitations
C. Sole Prop Migration
D. Impact of the New Exchange Market on the Individual Market and Small Group Markets

Note these premium impacts do not reflect the impact of annual medical trends.

A. Rating Limitations

Scenario 1

For the Individual Market, Maine carriers are currently allowed to adjust premium for age and geography but the combined adjustment needs to be within the 1.5:1 band around an index rate. In addition, carriers are allowed to adjust premiums for smoking status. In CY 2014, the ACA will allow carriers to adjust premiums for age within a 3 to 1 band for adults and also allow geography adjustments. Since current Maine law is more restrictive than what will be allowed in CY 2014, we believe there will be very little disruption due to rating formula changes. Carriers will not be required to change their rating practices due to age and geography rating. However, carriers who currently adjust premiums for smoking status may utilize the full adjustment allowed under the ACA which is a 50% surcharge. For those individuals that were identified as smokers, GA assumed a

full 50% surcharge in CY 2014 which normally increased the rate as the current smoking surcharge is between 15% and 20%.

Scenario 2

The Maine BOI asked GA to also the model the premium impact if the state of Maine expanded the age band to 3 to 1 for adults and allowed the geography adjustment to be outside of the rating band. This would mirror the ACA in CY 2014. In addition, GA again assumed a full 50% smoking surcharge in CY 2014 which normally increased the rate as the current smoking surcharge is between 15 and 20%.

There are many approaches carriers may employ to expand their age band to 3 to1. For our modeling purposes we took the approach that mitigated the impact to the oldest adults, essentially setting the age factors for younger members by dividing the current age factor for the oldest demographic by 3. The factors were then smoothed so that the curve and slope of the factors were as close to the original as possible. The new age factors were then normalized so that the revenue shortfall was then spread across the whole population. As a result of the 3 to 1 age band expansion, older members in general will experience a premium increase while younger members in general will experience a premium decrease.

Some carriers currently use geography adjustments in the Individual Market and others do not. Since geography adjustments would no longer be within the rating band, we assumed carriers would be more aggressive with these adjustments. We assumed the carriers would use the geography adjustments currently used in the Small Group Market. The table below shows the range of geography adjustments used by carriers in the market by region.

County	Region Category	Geography Adjustments	
		Minimum	Maximum
Aroostook	North	1.25	1.50
Somerset	North Central	1.05	1.20
Piscataquis	North Central	1.10	1.30
Penobscot	North Central	1.05	1.30
Washington	Down East	1.30	1.35
Hancock	Down East	1.20	1.30
Oxford	Lakes & Mountains	0.98	1.05
Franklin	Lakes & Mountains	1.05	1.10
Kennebec	Lakes & Mountains	0.95	1.05
Androscoggin	Lakes & Mountains	1.00	1.05
Sagadahoc	Mid Coast	0.95	1.05
Waldo	Mid Coast	0.95	1.10
Lincoln	Mid Coast	0.98	1.10
Knox	Mid Coast	0.90	1.10
York	South	0.90	0.95
Cumberland	South	0.90	0.95

Table 38 – Maine Region Definitions and Geography Adjustments

We assigned a geography adjustment using the above table for each member within the Individual Market. We then normalized our adjustments to ensure revenue neutrality.

We then assumed a smoking surcharge of 50% for those individuals identified as smokers.

The results of the age band expansion, the geography adjustment outside of the rating band and the smoking adjustment are shown below.

Premium Change Category	Distribution	Avg Premium Change	Average of age
less than -50%	3.0%	-53%	22
-40% to -50%	2.7%	-45%	24
-30% to -40%	2.7%	-34%	26
-20% to -30%	10.1%	-25%	28
-10% to -20%	7.4%	-13%	35
0% to -10%	32.5%	-4%	43
0% to 10%	18.2%	5%	48
10% to 20%	8.6%	14%	44
20% to 30%	8.7%	25%	52
30% to 40%	5.0%	36%	50
40% to 50%	0.7%	44%	55
50%+	0.4%	63%	52
Grand Total	100.0%	0%	42

Table 39 – Maine Individual Market Scenario 2 Results

Region	Distribution	Avg Premium Change
Down East	10.4%	22%
Lakes & Mountains	16.3%	0%
Mid Coast	16.9%	-1%
North	4.4%	19%
North Central	11.7%	11%
South	38.5%	-10%
#N/A	1.7%	-3%
Grand Total	100.0%	0%

Table 40 – Maine Individual Market Scenario 2 Region Results

B. Product Limitations

In CY 2014, we have assumed the minimum actuarial value allowed will be 0.60 which would equate to a Bronze product offering. We have also assumed a 0.45 actuarial value for the catastrophic plan for the individuals that are ages 18 to 30. As shown in Table 9, 79% of the Maine Individual Market will be required to purchase richer plan designs. Overall premium impact due to this requirement is 33%. The table below shows the premium impact by actuarial value range. Note that the composite premium changes are weighted by premium and not membership.

AV Range	Average of AV	Member Distribution	Premium Increase due to ACA
<.20	0.17	1.6%	250%
.20 to .29	0.26	17.5%	121%
.30 to .39	0.34	33.5%	73%
.40 to .49	0.48	17.6%	22%
.50 to .59	0.52	8.4%	14%
.60 to .69	0.66	8.0%	0%
.70 to .79	0.76	7.6%	0%
.80 to .89	0.82	5.3%	0%
.90 to 1.00	0.96	0.5%	0%
Grand Total	0.45		33%

Table 41 – Maine Individual Market Premium Changes due to Product

C. Sole Proprietors

It is unclear whether the ACA defines the Small Group Market as 1 to 50 employees or 2 to 50 employees. If the former is true, there may be some market disruption as sole proprietors exit the Individual Market and enter the Small Group Market. The Maine BOI has asked GA to model the impact of sole proprietors exiting the Individual Market.

We have assumed that the carriers in Maine follow standard actuarial practice when developing premium rates. Premium rates for each of the populations (Small Group, Individual) are developed using its own claims experience and then trended forward to the rating period. The claims experience for each population is normalized for the various rating factors allowed in each of the markets to develop a base premium rate. GA refers to this normalized claims experience as the adjusted claims base.

It is believed that sole proprietors have a healthier morbidity as compared to non-sole proprietors within the Individual Market. Their migration from the Individual Market may cause the overall claims experience to increase which will increase overall premium rates. Except for the DirigoChoice population, the insurance carriers cannot identify sole proprietors within the Individual Market. GA had to make a series of assumptions concerning the proportion of individuals that were sole proprietors and how their adjusted claims costs compared to the rest of the Individual Market.

GA analyzed the sole proprietors within the Dirigo population as well as the very small groups (group size 1 to 2) in the Small Group market to determine these assumptions. Based on these reviews and discussions with the Maine BOI, we have assumed that 75% of the existing Individual Market are sole proprietors. In addition, we assume that 40% of the sole proprietors within the Individual Market

migrate into the Small Group Market. Since sole proprietors are not forced into the Individual Market and product offerings are vastly different, we do not believe that all sole proprietors will exit. In addition, some of these sole proprietors may be eligible for premium tax subsidies within the Exchange. Based on our analysis, we assume that the sole proprietors who migrate to the Small Group Market have adjusted claims costs 16% lower than the adjusted claims costs of the remaining Individual Market. Based on these assumptions, we have modeled the premium impact to be 5% to the Individual Market.

D. Impact of the New Exchange Market on the Individual Market and Small Group Markets

For the Individual Market, Gorman Actuarial relied on Dr. Gruber and his microsimulation model to understand the impact of the new exchange pool on the Individual Market. GA provided Dr. Gruber data for the Maine Individual and Small Group Markets. Data included claims costs, premiums, actuarial value and demographic information for every member or small group. Dr. Gruber calibrated his models to this data and then provided GA with relative costs and demographic information for the newly insured, existing Individual Market, and Small Group Market. Based on this data, GA estimated that the premium impact of the new exchange pool on the Individual Market is approximately 0.4%.

VIII. Premium Impacts due to the ACA – Small Group Market

The analysis of the rating, premium and economic impacts of ACA on the Small Group Market involves an integrated approach using both actuarial modeling and economic microsimulation modeling, similar to the approach used in the Individual Market. The actuarial modeling was performed by GA. Note these premium impacts do not reflect the impact of annual medical trends. This modeling utilizes claims, premium, membership, rating and plan design data collected from the insurance carriers that participate in the Maine Insured Markets.

A. Rating Limitations

Scenario 1

For the Small Group Market, Maine carriers are currently allowed to adjust premium for age, geography and industry but the combined adjustment needs to be within the 1.5:1 band around an index rate. In addition, carriers are allowed to adjust premiums for group size. In CY 2014, the ACA will allow carriers to adjust premiums for age within a 3 to 1 band for adults and also allow geography adjustments. Carriers will not be required to change their rating practices due to age and geography rating, given that Maine'scurrent practice is more restrictive than the ACA. The primary source of premium change in CY 2014 under Scenario1 will be due to the elimination of group size adjustments. The current rating band in practice ranges from 1.3 to 1.6 for group size rating. Typically, larger groups are discounted and smaller groups are surcharged. Therefore , the elimination of group size adjustments will lead to larger groups experiencing premium increases while smaller groups will experience premium decreases, but

the overall change will be revenue neutral. There is one carrier who currently rates based on industry and the band for the majority of groups is 1.17. Since industry adjustments are required to be within the 1.5:1 band there will be minimal disruption due to the elimination of industry rating.

Scenario 2
The Maine BOI asked GA to also the model the premium impact if the state of Maine expanded the age band to 3 to 1 for adults and allowed the geography adjustment to be outside of the rating band. This would mirror the ACA in CY 2014. This is in addition the elimination of the group size and industry rating factors discussed above.

All carriers supplied age and geography factors prior to the application of the 1.5 to 1 band. In all cases, the application of a 3 to 1 band on the adult only age factors prior to banding was more restrictive. Note that this means that the 3 to 1 age band restriction applies to the member age factors, rather than the composite group age factors. There are many approaches carriers may employ to restrict their age band to 3 to1. For our modeling purposes we utilized the insurance carriers original age factors before banding and set the age factors for older members at three times the lowest current age factor for adults. The revenue shortfall was then spread across the whole population. Since Maine's current law requires a combination of factors to be within the 1.5 to 1 band, it is difficult to say that this change provides premium relief to younger groups and surcharge older groups. Our results did not indicate any bias towards demographics.

In current practice, the age rating factor is combined with the geography and industry factor and then the 1.5 band is applied. This allows carriers to use age rating factors that are greater than a 1.5 to 1 band today as long as the final rating factor complies. ACA requires the actual age factors that carriers use to be within a 3 to 1 age band. This requirement is a very different practice compared to what is done today and therefore it is difficult to make a general statement as to whether the change in age rating is more or less restrictive overall or for certain demographics.

All carriers currently apply geography adjustments. Carriers supplied current geography adjustments prior to the 1.5 banding, therefore we assumed these factors would be used in Scenario 2. In general, more costly regions like Downeast, North and North Central would experience premium increases while groups in regions such as the South would experience premium decreases due to this rating change. The overall change is revenue neutral.

B. Product Limitations

In CY 2014, we have assumed the minimum actuarial value allowed will be 0.60 which would equate to a Bronze product offering. We have calculated that 11% of the members and 17% of groups in the Small Group Market are currently enrolled in products with less than a 0.60 actuarial value. Overall premium

impact due to this requirement is 1.1%. The table below shows the premium impact by actuarial value range.

AV Range	Average AV	% Member Distribution	% Group Distribution	Premium Impact Due to .60 AV
less than .40	0.38	0.1%	0.1%	59.5%
.40 to .49	0.49	3.5%	7.7%	22.9%
.50 to .59	0.56	7.4%	9.6%	6.5%
.60 to .69	0.63	37.4%	34.7%	n/a
.70 to .79	0.74	37.6%	35.7%	n/a
.80 to .89	0.82	10.8%	10.2%	n/a
.90 to 1.00	0.92	3.3%	2.0%	n/a
Total	0.69	100.0%	100.0%	1.1%

Table 42 – Maine Small Group Market Premium Changes due to Product

C. Sole Proprietors

As mentioned in the Individual Market analysis, we have assumed that 40% of the existing sole proprietors within the Individual Market will migrate to the Small Group Market. This equates to approximately 11,000 members. In addition, we assumed that the sole proprietors who migrate to the Small Group Market have an adjusted claims costs base that is 16% lower than the adjusted claims base of the remaining Individual Market. We performed a similar exercise on the Small Group Market by reviewing claims costs and then normalizing for rating factors. Based on this analysis, we have assumed that sole proprietors who enter the Small Group Market have adjusted claims base that is 11% higher than the Small Group Market. Using these estimates, we have calculated that premiums for the Small Group Market would increase 1.1%.

D. Impact of the New Exchange Market on the Individual Market and Small Group Markets

For the Small Group Market, Gorman Actuarial relied on Dr. Gruber and his economic microsimulation model to understand the impact of the new exchange pool on the Small Group Market. GA provided Dr. Gruber data for the Maine Individual and Small Group Markets. Data included claims costs, premiums, actuarial value and demographic information for every member or small group. Dr. Gruber calibrated his models to this data and then provided GA with relative costs and demographic information for the newly insured, existing Individual Market, and Small Group Market. Based on this data, GA estimated that the premium impact of the new exchange pool on the Small Group Market is approximately 6% to 7%.

IX. Income and Tax Subsidy Assignments for Individual Market

Dr. Gruber provided distribution of FPL by age cohort for single policies and distribution of FPL by age cohort and family size (Family Size 2, 3 and 4+) for members that are in family policies. For the family data there are a few caveats, namely that certain age cohorts could not be broken out by family size due to data constraints. Specifically:

- Age cohorts 19-24 and 55-59 could only be provided for Family Size 2 and 3+
- Age cohort 60-64 could only be provided for Family Size 2+

For this analysis the Maine Individual Market membership was separated into single policies and family policies. The family policies were categorized into policies with either 2 members, 3 members or 4+ members.

A. Single Policies

To assign FPL level to each member in the Maine Individual Market, GA used a random number assigned to the member to determine which FPL cohort the member is in. Based on the random number, the member was assigned to one of the five following FPL cohorts:

1) < 133%
2) 133-200%
3) 200-300%
4) 300-400%
5) > 400%

Members in FPL cohorts 1 through 4 are subsidized, and those in FPL cohort 5 are unsubsidized.

The assigned FPL distribution matches the distribution provided by Dr. Gruber, based on the age of the member. Using the member's assigned FPL level, the corresponding annual amount that the member would be required to pay (based on their age and subsidy level) was assigned from a table provided by Dr. Gruber. Then, this annual "pay" amount was compared to the "post reform" annual premium we estimated for the member. If the "pay" amount is lower, then we assume that this member will be receiving subsides within the exchange. If higher, we assume this member does not receive subsidies. We also assign the member as either a "winner" or "loser", depending on whether the member pays less than what they were paying pre-reform (winner), or more (loser). Using the age cohort, FPL level and winner/loser designation we have created exhibits that show the distribution of members as compared to all of the single policies and the average percentage change in premium, comparing what the member will pay after the introduction of the exchange to what they were paying before.

B. Family Policies

The methodology for assigning FPL to members in the Individual Market who are in family policies was similar to the methodology used for single policy members. Additionally, the FPL level was assigned based on the number of members in the policy in addition to the age of the subscriber. The following family size cohorts are used:

- Family Size 2

- Family Size 3
- Family Size 4+

Again we used a random number assigned to the subscriber to determine the policyholder FPL level based on the policyholder's age. The assigned FPL distribution matches the distribution provided by Dr. Gruber, based on the age and family size of the subscriber. After assigning the FPL level to the policyholder, the amount the policyholder would be required to pay (based on the policyholder age, FPL and family size) was assigned from tables provided by Dr. Gruber. This annual "pay" amount was compared to the family premium (PSPY) "post reform". If the "pay" amount is lower, then we assume that this policyholder will be receiving subsidies within the exchange. If higher, we assume this policyholder does not receive subsidies. We also assign the family policy as either a "winner" or "loser", depending on whether the policyholder pays less than what they were paying pre-reform (winner), or more (loser). Using the age cohort, FPL level, family size and winner/loser designation we have created exhibits that show the distribution of members as compared to all of the family policies and the average percentage change in premium, comparing what the policy will pay after the introduction of the exchange to what they were paying before.

C. Random Trials

This method of assigning FPL was performed many times for both the single policyholders and the family policyholders, to determine if the results vary based on the randomness of members being assigned to FPL cohorts. The results were consistent among trials, with the percent distribution of members and subscribers nearly identical, and the percentage change in premium varying only slightly between trials.

X. Federal Individual Market Reinsurance Program

In CY 2014, the Individual Market will be eligible for a reinsurance program which will be funded through assessments on insurers and third party administrators on behalf of group health plans. The reinsurance will be for high risk individuals in the Individual Market. At this time, it is unclear as to how the assessments will be calculated, however the maximum contribution will be $10 billion in CY 2014, $6 billion in CY 2015, and $4 billion in CY 2016. We have calculated high level ranges of the possible impact of a reinsurance program on the Individual Market. We received 2010 ESI market share by state from Dr. Gruber. His estimates are based on data derived from the 2010 CPS. We then allocated $10 billion in CY 2014, $6 billion in CY 2015, and $4 billion in CY 2016 to each state using this market share. Results show that Maine's Group Market will be surcharged approximately $46.3 million for an Individual Market reinsurance program in CY 2014. We then estimated a subsidy PMPM for CY 2014 using projected Individual Market membership numbers estimated by Dr. Gruber. Using these estimates as a starting point, we then determined a range of membership estimates. Next we calculated a range of Individual Market subsidy PMPMs. Once our estimated subsidy PMPMs were determined, we then calculated projected premium PMPMs for the Individual Market. We used an annual premium trend of 9.9% and also adjusted the premium for the premium impacts we modeled due to the ACA. We then compared these subsidy PMPMs to projected premium PMPMs to calculate a percent premium reduction due to

the reinsurance program. Our estimate of premium reductions range from 7% to 15% in CY 2014.

XI. Merged Markets

We performed a merged market analysis assuming that markets would merge prior to CY 2014. We considered the following scenarios:

(1) Individual Market and Small Group Market
(2) Small Group Market and Large Group (51 to 100 Employees) Market
(3) Individual Market, Small Group Market and Large Group (51 to 100 Employees) Market

Since these markets will look quite different from what they do now, we have estimated the impacts to premium rates using CY 2009 data first. Like the sole proprietor analysis, we have assumed that the carriers in Maine follow standard actuarial practice when developing premium rates. We calculated an adjusted claims base for each of the markets (Individual Market, Small Group Market, and Large Group 51 to 100) using the following methodology. Our approach started with the incurred claims PMPM for each market and our calculated actuarial value. We also calculated the average age and geography factors for each market. We focused our attention on these rating adjustments since they would be the primary adjustments allowed in CY 2014. We then normalized our claims costs for rating factors to calculate the adjusted claims base. These adjusted claims bases were compared to each other to show that the Individual Market adjusted claims base is 25% higher than the Small Group Market and that the Large Group Market (51 to 100) adjusted claims base is no different than the Small Group Market. Using CY 2010 market share, we then combined the various markets under each of the merged market scenarios to calculate a resulting adjusted claims base. This combined adjusted claims base was compared to each market segment's original adjusted claims base to calculate the premium impact.

Results show that if the Small Group and Individual Markets were merged today, premiums for the Individual Market would decrease 15% and Small Group Premiums would increase 7%. In the merged market, the Individual Market would only represent 27% of the market. The Small Group Market subsidizes the Individual Market since they have lower expected claims costs. Merging the Small Group Market and Large Group Markets show very little change since both market segments are very similar and there would be very little cross subsidization across markets.

For CY 2019, we received new membership projections by market segment as well as how the adjusted claims cost would change for each of the markets from the output of Dr. Gruber's microsimulation model. Results show that the adjusted claims cost for the Individual Market would increase 0.4% and the Small Group Market would increase 6%. This means the adjusted claims base differential becomes smaller as compared to CY 2010 levels. This effect alone will reduce the Small Group Market's ability to subsidize the Individual Market.

In addition, the Individual Market Membership will increase 164% in CY 2019 and the Small Group Market Membership will decline 5%. The New Individual Market will represent 51% of the new merged market. This increase in the Individual Market's market share also reduces the Small Group Market's ability to subsidize the Individual Market. Our results show that merging the markets in CY 2019 would only decrease Individual Market premiums 9% and increase Small Group premiums 12%.

XII. Overview of the Gruber Microsimulation Model (GMSIM)

The results presented in Section 3 and Section 10 are based on modeling performed using the microsimulation model described in this appendix. There are two major components to the Gruber Microsimulation Model (GMSIM): the "premod" which is the baseline dataset, and the GMSIM model itself which produces the simulation results.

The premod is primarily based on data from the 2005 Current Population Survey (CPS), which provides the individual level data on about 40,000 non-elderly individuals and household units. The 2005 CPS is used as the base data source because it is the latest year that respondents were asked about employer sponsored insurance (ESI) offering. We use later year versions of the CPS to update all income and demographic measures.

In the CPS we are only interested in the non-elderly population (under age 65). Individuals aged 65 and older are primarily covered by the Medicare system and do not participate in traditional insurance markets, thus we exclude them from our simulation. We also exclude individuals covered through the TRICARE military health system, as they also do not participate in traditional insurance markets. The observations in the CPS are weighted such that one observation may represent many thousand actual people. For the purpose of our analysis we begin by sorting people onto one of four pre-reform insurance categories: ESI, non-group, public, or uninsured. In the pre-reform state, the observation's entire weight is placed in one category (when we run the simulation we relax this assumption and allow weights to be spread across insurance categories). We also create health insurance units (HIU) to replace the CPS household definitions. The CPS groups households based on residence, but this is not ideal for a health insurance simulation model. We create the HIUs to represent groups of people who would make insurance decisions together. Generally speaking spouses are grouped together and children are grouped with parents.

To supplement the CPS data, which does not include information on health expenditure or insurance premiums, we use data from the Medical Expenditure Panel Survey (MEPS). From MEPS we have the distribution of individual annual expected health spending sorted by self-reported health status and age, which we then impute to our CPS observations and then refer to as "truecost". To set pre-reform non-group premiums, we first model actuarial value under the assumption that as income rises households will purchase higher value insurance. We then set premiums based on the individual's truecost, a fixed load, and a variable load that reflected the relative cost of the individual's age group. To set ESI premiums, we first model actuarial value based on the assumption that firms with higher average wages will provide higher value insurance. We then use MEPS data to impute the distribution of ESI premiums (both single and

family plans) sorted by firm size. Premiums are adjusted by a health cost index that reflects the relative health of the firm's employees, firm size averages, and state averages. We use additional MEPS data to compute the employer-employee split of the premium. We use data from the Kaiser Family Foundation (KFF) to set public insurance program spending and eligibility, as well as the federal/state funding split.

To improve the accuracy of our pre-reform estimations of the non-group and small group markets in Maine, we utilize data provided by Gorman Actuarial. GA provided us with individual level data on annual claims and plan premium and actuarial value. We first use this data to adjust our estimated distribution of "truecost" or annual expected health spending to match the distribution of claims paid by Maine insurers in the data provided by GA. Next, we match the distribution of insurance products in these markets. We begin by grouping together plans with similar actuarial value, which we then refer to as a "product". Then we group the enrollees into sub-population cells determined by the enrollee's age, sex, and claims cost. We find the distribution of "product" market share and average premium and actuarial value for each "product" in each age, sex, and claims population group. We then assign individuals from our CPS dataset to products, matching the distribution of enrollment and premium spending that we observe in the GA data. At the end of this process, our estimation of the Maine non-group and small group markets much more closely reflects the actual Maine marketplace.

To model firm behavior, it is important to understand that firms make decisions based on the firm wide aggregate effects of a policy. To mimic this in GMSIM, we construct "synthetic firms" which are meant to reflect the demographics of actual firms. The core of this computation comes from Bureau of Labor & Statistics (BLS) data providing the earnings distribution of co-workers for individuals of any given earnings level, for various firm sizes and regions of the country. Using these data, we randomly select individuals in the same firm size/region/health insurance offering cell as a given CPS worker in order to statistically replicate the earnings distribution that the BLS data would predict for that worker. These 99 workers then become the co-workers in a worker's synthetic firm.

To project our premod forward for future year analysis we use a variety of income and health cost inflation rates, as well as population projections from the Census Bureau, and insurance growth rates from the Congressional Budget Office (CBO). We use CBO's projections for GDP growth to inflate income measures. We use a flat 6% growth rate to inflate health care costs following the CBO. We grow the overall population based on Census Bureau projections of population growth by age and sex. We also adjust the relative size of insurance categories using growth rates supplied by CBO.

To begin the policy simulation process, we first consider firm reactions to policy changes. We do this because 90% of private health insurance is provided by employers, giving them great influence in insurance markets. To model firm behavior, we assume that the firm's decision-making reflects the aggregation of worker characteristics and preferences. To model these preferences we compute "pseudo-takeups", which are the firm's prediction of worker reactions to policy changes. We then average these reactions

across the firm. There are three ways that we allow firms to react to policy changes and their predictions of worker behavior: change in ESI offering, change in the premium contribution split, and change in the spending on the total ESI premium. We also consider the size of the firm, as small firm behavior is more sensitive to policy changes. We assume that total worker compensation remains constant, so firm increases in ESI spending are offset with wage reductions and decreases in spending are offset with increases in wages.

We model changes in ESI offering by considering the incentives to offer insurance provided by policy. We consider each policy component separately and compute an "offer pressure" that reflects the influence of the policy component on the firm's decision to offer or not offer insurance. Therefore policies that provide viable alternatives to ESI coverage reduce the likelihood that the firm offers ESI. For example, the introduction of individual exchanges or expansion of Medicaid would reduce the likelihood that a firm offers insurance. Additionally, policies that subsidize alternative sources of insurance reduce the likelihood that a firm will offer insurance. Subsidies or penalties for not offering insurance raise the probability of offering insurance. If there is a mandate policy, it will result in a positive offer pressure. Since individuals will be required to take up a form of insurance if they are uninsured and many will prefer ESI over other insurance types, this will reduce the likelihood that the firm drops coverage. The decision to offer insurance is the most direct method by which firms react to policy changes.

We utilize a similar framework to firm offering when considering contribution shift and spending decisions. In this process, we consider each policy component's impact of the contribution decision and spending decision, and then aggregate the individual components to get the final contribution and spending change. The contribution and spending decisions are more subtle methods for firms to influence worker behavior. Policies that provide or subsidize alternative forms of insurance will cause firms to reduce their contribution to the ESI premium and reduce spending on the premium. This works as an indirect influence on workers to move to these alternatives. Conversely, when ESI is subsidized or firms are penalized for not providing coverage, firms will increase their contribution or spend more on the policy. All of these reactions will increase with the size of the subsidy or penalty. When firms change the total spending on the ESI premium, half of the spending increase goes to purchasing a higher actuarial value product, and half goes to buying unobservably better coverage (i.e purchasing from a more reliable or higher reputation carrier).

After determining the firm response, we move on to estimate the reactions of individuals to the policy changes. When considering individual reactions, we use a hierarchy of insurance desirability. ESI is most desirable, followed by individual exchanges, then traditional non-group insurance, and last is public insurance. To decide between the insurance options we use "takeup" equations to determine the probability that an individual will move to a certain insurance type. Generally speaking, these equations are of the form:

Takeup = (Constant + Elasticity x % Price Change x Income Effect) x Income Adjustment

The constant is a term that reflects the individual's health and the desirability of the insurance option. The elasticity determines the responsiveness of individuals to price changes. These are determined, to the greatest extent possible, by a survey of the health economics literature. The price change measures the change in price from the pre-reform state to the post-reform state, and is adjusted for changes in the actuarial value of the plan. The income effect measures the level of the price change relative to income. This is important because price changes have diminishing returns to movement. That is to say that as the price change becomes large in dollar terms its impact on movement gets progressively weaker. The income effect also picks up the assumption that price changes are less important as income rises. Finally, the income adjustment reflects the assumption that takeup of insurance will fall at the final cost of insurance rises relative to income. After we compute the takeup probabilities for all the possible insurance movements, we apply any regulatory apparatus. For example, individuals with an ESI offer may be barred from moving to the individual exchange. After making the regulatory changes, we adjust the probabilities for overlap such that the sum of the movement probabilities and the probability of remaining on the pre-reform insurance category equals 100%.

By this point we have predicted the probability of the individual making all possible insurance choices. We now relax the assumption that each individual observation can only be on one insurance type. We use the movement probabilities as the share of the individual's weight that is moved to the relevant insurance category. For example, an observation might have a total weight of 1,000 and in the pre-reform state is uninsured. Pre-reform, we say this observation represents 1,000 uninsured individuals. Now in the Post-reform world, we have concluded there is a 50% probability that this observation will continue to be uninsured, and a 50% probability that this observation will be covered by public insurance. We now say that this observation represents 500 uninsured individuals and 500 individuals covered by public insurance.

At this point we have computed what we call the voluntary movement: the movement that occurs as a result of individual and firm decisions. The next step is to apply any additional regulatory apparatus that affects movement such as an individual mandate or an auto-enrollment process. To make these adjustments, we move a portion of the observation's post-reform uninsured weight to a pre-determined insurance destination. The insurance destination represents the most likely source of insurance coverage for the person. The portion of the post-reform uninsured weight that is shifted depends on the insurance destination, and is calibrated to produce results in line with CBO estimates. We also have the capability to restrict the movement of undocumented immigrants. Utilizing data provided by Dr. Jeffery Passel of the Pew Hispanic Center, we are able to identify likely undocumented immigrants in the data, and to adjust or restrict their movement.

After considering the regulatory apparatus, we have finished the movement section of the model. To conclude the modeling process we finalize cost changes for individuals, firms, and governments. The first step in this process is to reset premiums in any exchanges that have been created. Exchanges will charge premiums that reflect the underlying risk of the overall pool, instead of the individual as in traditional non-group markets. To model the premiums that will be charged in the new exchanges we collaborate with Gorman Actuarial to determine the effect of ACA regulations and exchange population characteristics on premiums. This is an iterative process where we complete a model run and then GA provides premium effects, which we feed back into the model until the premiums and populations stabilize. For the initial run, we estimate exchange premiums by using the existing non-group and half of the existing uninsured population (selected randomly). In the subsequent iterations, we use data from GA to predict an exchange premium that is either higher or lower than the pre-reform premium based on the regulatory impacts of the ACA and the underlying cost of the exchange population We then calculate changes in the following measures for individuals: premiums, out-of-pocket spending, regulatory penalties, wages, and taxes. For firms we calculate changes in: ESI spending, payroll taxes, and regulatory penalties. For governments, both state and federal, we calculate changes in: public insurance spending, subsidies (both for individuals and firms), tax revenues, and revenues from regulatory penalties.

XIII. ACA Premium Assistance Credit Table

Table 43 is taken from Section 1402 of the ACA and shows the maximum premium percentage by income level.

"In the case of household income (expressed as a percent of poverty line) within the following income tier:	The initial premium percentage is—	The final premium percentage is—
Up to 133%	2.0%	2.0%
133% up to 150%	3.0%	4.0%
150% up to 200%	4.0%	6.3%
200% up to 250%	6.3%	8.05%
250% up to 300%	8.05%	9.5%
300% up to 400%	9.5%	9.5%

Table 43 – ACA Premium Assistance Credit Table